SC MASTER 6/16

AV Stumpfl

Contents

Introduction **1**

Control centre and multi-channel MP3-Player 1

The features 2

Scope of supply 5

Optional accessory 5

Address 7

Documentation status 7

Front and rear views **9**

Front view 10

Rear View 12

IR remote control unit 13

Getting started **15**

General 15

Cable connections and power supply 15

Programming shows **18**

Overview 18

Connection to the computer 19

Programming with Wings Platinum 21

Preparatory steps 21

Creating a project 21

Special features for programming 23

Producing a show medium **25**

General 25

Generating data for the SC MASTER 6/16 25
The FlashCard Dialog in Wings Platinum..... 27
Generating presentation data for the CF card..... 29
Specifying show properties 34

Editing Remote properties of shows 35
Special settings 38
Editing Remote properties in SHOW.INI 39
The Key Table 40

Data transfer to CF card 42
Copying the show data onto a CF card 42

Playback of shows **44**

Presentations - compact layout and comfortable handling 44
Extended selection of shows..... 47
Show selection via the IR remote control unit 47
Show selection via buttons on the device 47
IR remote control range..... 48

Show Start with Timer..... 48

Time-controlled show start via the Scheduler 49

Show start via transponder 50

Structure of the card player **53**
General..... 53

MP3 Card Player..... 53
Playback of synchronized multi-channel sound 54
Volume and sound control..... 55

The SC Net System **56**
General 56
Cable Connections and Power Supply 56
Address configuration 57
Setting addresses in the Media Pool....57
Setting the addresses at the hardware 58
Subadresses of the SC MASTER 6/16 61
Ensuring communication within the SC Net....62

The Menu **64**
Layout of the Menu 64
How to use the menu....66
Menu operation via IR remote control 69
Menu Chart 70

The Menu Items **73**
Setting 73
Load 73
Save 73
Factory 73
Options 75
Aux Address (Auxiliary Address) only for DLC mode....75
RS232Out Addrs (RS Out Address) only for DLC mode75
SC Net (SCNet Options) 75
Display 77
IR Receive 78
Remote-Out 78
Data In/Out....80
External Clock....81
RS232InBaudRat (Baud rate for RS232-In)....82
Sound 83
Master 83

Input 83
Save Volume 84
Slider 85
CUE OUT Signal 86
Priority 86
Cue-Out 86
Continue Sign (Continue Signal) 87
RS232 OUT 88
Driver 88
Timer 89
AutoTimer 89
ShowNumber (Show Number) 89
Timer Time 89
Info 90

Show Control **92**

General 92
Sound track management on CF card 93
Sound track continues: 93
Sound track is interrupted: 93
Variables 95
EEProm Variables: 96
RAM Variables: 96
Monitoring of variables during programming 97
Remote Input and Key Mask 99
Key Mask 100
Text in display or via RS232 102
These are the individual steps for displaying text 102

Trouble shooting **104**

Finding faults 104

List of problems 105

Update of operating software **108**

Updating 108

Technical Appendix **110**

ASCII Protocol 110

Connector configuration 115
RS232-IN connector 115
RS232-OUT connector 116
SC NET connector 117
CUE-OUT connector 118
LINE-OUT connectors 118
REMOTE connector 119
REMOTE Connector Open-Collector Outputs 120
DATA IN / OUT connector 121
POWER connector 122

Technical Data 122

Glossary **123**

Index **126**

Introduction

Control centre and multi-channel MP3-Player

SC MASTER 6/16 series units are MP3 players featuring superordinate Show Control Management for controlling multimedia events. Within the SC Net network, such a unit forms the central control system with a variety of input and output options. Sound and control information is stored on a memory card the size of a postage stamp. Direct and undelayed access ensures both synchronization and interaction. SC MASTER 6/16 gives you "complete control"! Congratulations and welcome to the Stumpfl system!

The core of the device is a microprocessor with programmable operating software which allows the many features and functions of this new generation of control units to be implemented. The required configuration settings can be made, saved and called up in the entry menu. Any future developments can easily be incorporated via software updates, which will keep your unit constantly up-to-date.

This manual with its step-by-step instructions should help you to familiarize yourself with all the features and possibilities of this device.

This manual is also available as PDF document. The latest version can be downloaded from our website.

The features

To give you a feeling for the extraordinary efficiency of the SC MASTER 6/16 we have listed the most important features below. If some of the topics inspire your curiosity, just follow the cross references for further information.

Audio

- The audio player offers up to 16 channels (8 stereo channel pairs) and uses a CompactFlash Card as data carrier (called CF card for short). Flash memory design means no moving parts to break or wear. The audio data are compressed in accordance with the Fraunhofer MPEG1 Layer3 audio compression format (called MP3 for short).
- On a CF card the size of a postage stamp with a storage capacity of 512 MB, 8 hours of stereo sound can be stored at a CD-like quality.
- IR remote control unit for easy adjustment of volume and sound.
- Every stereo pair can be adjusted in volume and sound both individually or jointly.

- Professional, balanced stereo jack outputs to avoid interferences. Allow direct connection of 8 headsets, using the corresponding cable adapters.

Control

- Control of external components via SC NET, DLC data signal or the integrated RS232 port.
- Control of lighting and other devices via DMX512 signals. The first six channels are available via a special optional cable, control of up to 64 channels via the optional DMX Upgrade Module. Transmitting IR commands is not possible when the DMX output in use.
- Control of building services technology via the DALI system and the configurable REMOTE connector (special cable SCK-MDALI/3). All 16 DALI groups are available, but there is no differentiation between subaddresses.
- Multi-functional DATA I/O-Port for linking up with peripheral devices, e.g. open collector remote adapter or transponder reader for identification of individual visitors.
- Comprehensive timer function and synchronization with DCF77 signal with the optional Radio Clock Module.
- Freely definable show configurations via Scheduler file. Even highly complex conditions can be specified.
- Remote control via the RS 232 input for integration with superordinate media control systems.
- Remote input for direct starting of shows via simple keypads.

- Direct connection of a keypad matrix with up to 16 keys or up to 16 parallel switch inputs.
- Connection of light barriers and motion detectors.
- Interactive show design in response to a variety of input conditions, e.g. branching to other show sections by pressing a key.
- Simple, intuitive programming of all sequences via Wings Platinum software. Extensive range of variable functions.
- All settings are menu driven via a graphic display. The graphic display is well readable from all angles. Up to six set-up configurations can be saved and retrieved at any time.
- The SC MASTER 6/16 operating software can be updated via a file and a Windows PC at any time.

Scope of supply

The SC MASTER 6/16 includes the following:

- IR remote control unit
- Power Supply Unit AC-3
- User Manual and Wings Platinum CD ROM

Optional accessory

- Compact Flash cards (CF cards) with varying memory capacities of up to 2 GB.
- Start keypad with up to 3 keys for connection to the REMOTE connector
- Keypad with 16 keys for direct connection to the DATA I/O socket.
- Transponder for object-oriented event triggering.
- Motion detectors and light barriers
- Radio clock module for time-controlled presentation to be connected to the REMOTE connector.
- Open Collector Remote Module with 16 open collector switch outputs and 8 remote inputs for floating switching contacts.
- Remote 16in Module with 16 parallel remote inputs for floating switching contacts.

- DMX Upgrade Module for direct control of up to 64 DMX channels.
- DMX512 extension cable for connection to REMOTE connector, SCK-MDMXE
- External IR receiver for connection to the REMOTE connector

Important note on the disposal of the equipment

Please do not dispose of your Stumpfl equipment in unsorted household waste. Take it to a collection or recycling place for electronic waste provided by your municipality, community or city. This helps to protect the environment, as all the parts of the unit, i.e. also the dangerous substances contained in electronic components, will be disposed of appropriately and the reusable components be recycled.

Address

If you would like to contact us, just write a letter, send us a fax or an e-mail. We'll be pleased to hear from you!

Visit our website on the Internet. We'll always have the latest information and software ready for you!

AV Stumpfl GmbH
Mitterweg 46
A-4702 Wallern

Tel.: 0043-7249/42811
Fax: 0043-7249/428114
E-Mail: support@stumpfl.com
Internet: http://www.stumpfl.com

Documentation status

Last reviewed: **14.03.2008**

SC Master 6/16 operating software: **2.05**

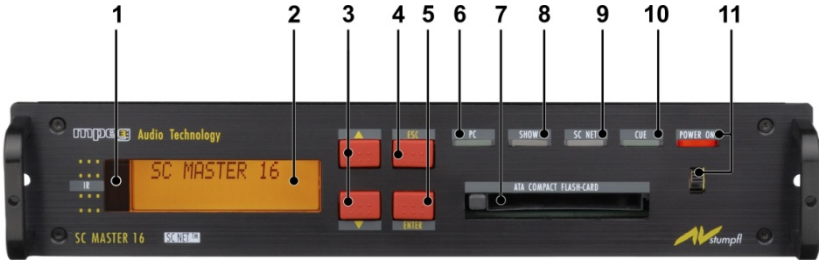
Wings Platinum Version: **3.50**

This manual has been prepared with care and contains all information about the SC MASTER 6/16 available at the time of print.

This documentation is also available as a PDF file, which, under certain circumstances, may be more up-to-date than the printed version. If necessary, contact us for the latest Help versions.

Front and rear views

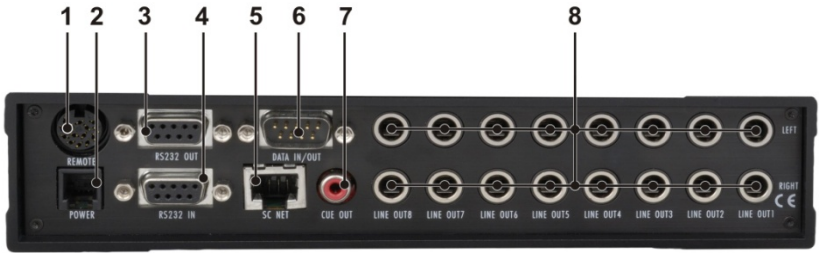
Front view



1. IR receiving diode behind the display
2. LCD display
3. Keys for menu and show selection as well as volume control for the SC MASTER 6/16
4. ESC key for the menu and for aborting running shows (press for more than one second)
5. ENTER key for menu, show start and restarting from X-times
6. PC LED is on when the PC is connected or flashes at an interval of one second if the DCF77 Radio Clock Module is connected.
7. Slot incl. ejection key for CompactFlash Card (called CF card for short).
8. SHOW LED is on while a show is being played back and flashes in Pause Mode or when an X-time has been reached.
9. SC NET-LED lights up, when there is any communication within the Show Control Network.

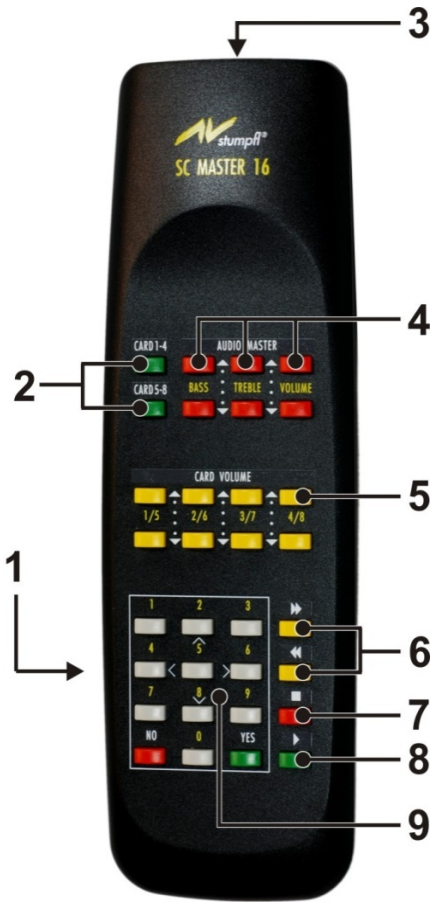
10. CUE LED flashes while a control signal is being generated or when there is an error on the SC Net bus.
11. ON/OFF switch with control LED, is illuminated when ON

Rear View



1. REMOTE connector for connection of a cable-operated remote control unit, a Radio Clock Module, of query switches, of a DMX or DALI cable; output of two OC switches (not all of them can be run at the same time!).
2. Connector for power supply unit AC-3
3. RS232 OUT connector for controlling external devices; can also be used as remote input
4. RSRS232-IN connector for communication with a computer or external devices, connection to a serial LAN adapter, e.g. remote control of the SC MASTER 6/16.
5. SC NET connector for linking up with a Show Control network.
6. Data port with 8 IN/OUT channels for connection to Open-Collector Remote Modules or to special interfaces
7. CUE-OUT connector, output for control signals (DLC/Mate-Trac) or SMPTE timecode
8. LINE-OUT connectors, 16 balanced audio outputs defined as 8 left/right pairs

IR remote control unit



1. Cover of battery compartment, on the rear. **Caution:** Strictly observe the correct polarity indicated at the bottom of the battery compartment when inserting the batteries!

2. Volume control preselection keys; for selection of stereo channels 1 to 4 or 5 to 8
3. IR transmitting diodes (range from 10 to 20 m)
4. Volume and sound control for joint control of all channels
5. Volume control CARD 1/5 to CARD 4/8 for four stereo channels, changeover via preselection switches CARD 1-4 and CARD 5-8
6. Skip ⏭/Skip ⏮: During menu operation key functions are ↑ and ↓
7. Stop ■: Pressed briefly ... when a show is running: "Show Pause" on/off, ... pressed for more than 2.5 seconds: Show is aborted; during menu operation: ESC key
8. Play ▶: Deactivates "Show Pause" mode for a show or restarts from an X-time during a show; is used as ENTER key during menu operation.
9. Keys for selecting or starting shows. See also **Fehler! Verweisquelle konnte nicht gefunden werden.***hows* on page **Fehler! Textmarke nicht definiert.**. Number keys can also be used for starting from X-times.

Getting started

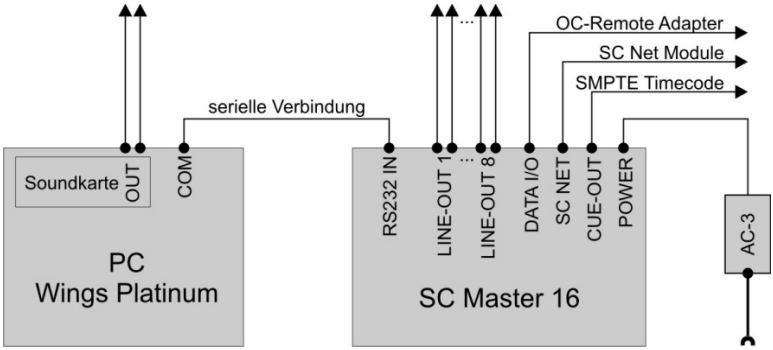
General

You may be burning to start testing your new SC MASTER 6/16. However, before you can start presenting your first show, you will have to take a few preparatory steps.

Cable connections and power supply

Connecting the system cables

Connect the cables as displayed below.



Once you have set up the connections between the system components, you can start programming with Wings Platinum. In order to find out how this is done, refer to the corresponding chapters. Please bear in mind that SMPTE timecode is only generated while the program is run from the CF card and not during programming with Wings Platinum. If you require time-

code for syncing external device during Wings Platinum programming you can create an audio track in the timeline for timecode generation and export timecode via a sound card audio output. Further information can be found in the Wings Platinum Online Help.

Note: Other connection diagrams in this manual do not include the power supply unit AC-3 and take its existence for granted.

Switching on

Press the main switch (POWER ON) to switch on the SC MASTER 6/16. The red LED above it lights up and the display shows several messages one after the other. After about 3 seconds the following display should appear:

Inserting the batteries into the IR remote control unit

The battery compartment is located at the rear of the remote control unit. Push the cover of the battery compartment downwards by pressing on the arrow symbol and insert four or two (new remote control units) batteries size LR03 (round cell 1.5 V) in accordance with the polarity indication. Slide the cover back to close the battery compartment again.

Important: Strictly observe the correct polarity indicated at the bottom of the battery compartment when inserting the batteries!

The SC MASTER 6/16 is now ready for operation.

Programming shows

Overview

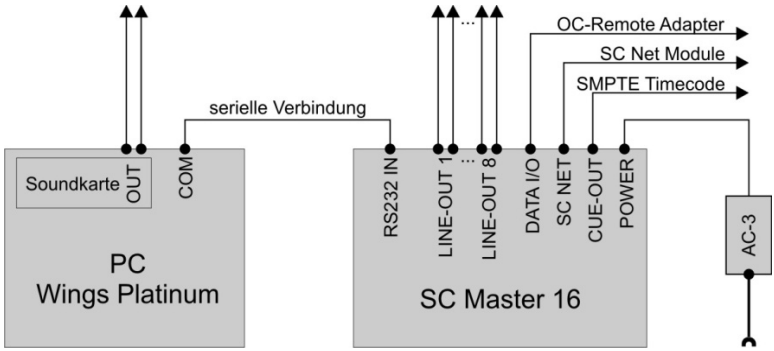
"How shall I go about it?" many newcomers will ask themselves, but even for old hands a closer look at the various possibilities offered by Wings Platinum in combination with the SC MASTER 6/16 may be worth while.

The new Stumpfl system tools certainly open up new avenues for implementing a show. When Wings Platinum is used for show programming, the control information for the devices to be controlled, the audio samples and, possibly, also digital images or videos are stored on the computer. One of the major advantages is the fact that all components can be edited at any time and any phase of the production and still remain in perfect synchrony. Sound and control information are only stored on the CF card after the entire show has been completed. Please note that the CF card must be formatted to the FAT file system and NOT the FAT32 or NTFS file system!

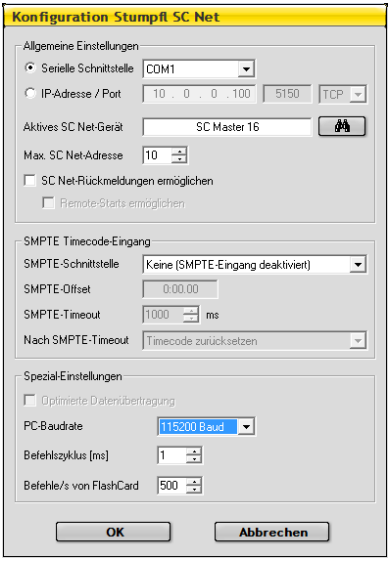
Connection to the computer

For programming, SC MASTER 6/16 interacts with Wings Platinum. It is the link between multimedia units and computer. Communication with the computer is via a serial port.

1. With the devices being deactivated, connect the RSRS232-IN connector of the SC MASTER 6/16 with a serial port (Com 1...4) of your computer. You should use the supplied cable STK-C010 to avoid possible problems caused by ground loop and interfering voltage.



2. Now switch on the computer and the SC MASTER 6/16 unit.
3. Start Wings Platinum, load a project or create one. The device port "Stumpfl SC Net" using the corresponding interface must be set up in the project. When you set up an SC Net port, the following dialog box will be displayed:



Select a "PC Baudrate" setting of 115200 Baud, provided the serial connection allows this. If its length does not exceed 5 meters, there shouldn't be any problems. By placing a checkmark next to "Enable SC Net feedback", you can have the contents of variables displayed on the Control Panel. More about this in chapter Variables.

For reasons of compatibility with older units of control technology there is also an DLC port. When the DLC port is used for programming, the DLC data signal is generated at the CUE-OUT connector of the SC MASTER 6/16. Compared to the SC NET port, however, the DLC port only allows a restricted range of cues and much smaller address space.

4. In the Wings Platinum toolbar click "Enable device control". After the connection has been established, the

green PC LED lights up and button "Enable device control" appears depressed and in color.

If you have problems establishing a connection with the PC, proceed according to the checklist, which you can find in the Online Help of Wings Platinum under "**Problems...** ".

Programming with Wings Platinum

Preparatory steps

Hard disk recording allows parallel production of sound track and control program. This means that you don't have to mix and complete the sound track first before you can start programming or synchronizing but that the sound can be added piece by piece when producing the control program. This allows for maximum flexibility. The **Workshop for Beginners** in the Wings Platinum Help Menu illustrates the various functions available by giving a few production examples.

Link up control unit and computer as described under **Fehler! Verweisquelle konnte nicht gefunden werden.** on page **Fehler! Textmarke nicht definiert.** and activate the system.

Creating a project

Before SC MASTER 6/16 can play back sound, you need to create the corresponding project and copy it onto CF card. In addition to MP3 audio samples, it also requires a show file containing playback information for the samples and, most of the time, also information for the devices to be controlled.

Please note that the CF card must be formatted to the FAT file system and NOT to the FAT32 or NTFS file system!

In Wings Platinum, project creation is media or object-oriented. This means that you arrange pictures, videos, music and control functions as desired and that the image mix is immediately visible on the virtual screen. All components involved are accurately synchronized. The steps to take, which are explained in more detail in the Wings Platinum Online Help, are as follows:

Creating a project: The fastest and easiest way to do so is via one of the Project Wizards or via project templates.

Capturing media: Scan your pictures and save music and sounds on your hard disk using Wings Platinum. Wings Platinum helps you to do so in a variety of different ways. As an alternative, you can copy existing media files onto your hard disk and import the corresponding media files into the Media Pool.

Arranging control objects in line with sound: Drag the corresponding control objects and pieces of music from the Media Pool into the corresponding track in the timeline. All the resulting objects can be shifted, dissolved or cut in virtually the same way, which means that learning to edit is quite easy.

Immediate test run with devices: A sequence that has been prepared in Wings Platinum can immediately be checked via the connected devices as the devices will follow the Locator position in Wings Platinum when the device control system is enabled.

Creating presentation data: Once you have completed your project and want to present it without PC you need to create presentation data for the SC MASTER 6/16.

Details on how to produce presentation data for CF card can be found from page **Fehler! Textmarke nicht definiert.** onwards. Refer to the Online Help to find out about the sophisticated ways of programming with Wings Platinum. This help is context-sensitive, i.e. by pressing the F1 key the topic matching the open dialog box will usually be displayed. The help also contains example projects for classical show control applications.

Special features for programming

SC MASTER 6/16's innovative technology allows you to work and present in a completely different way - something you should consider during programming:

- Should your show stop at a certain point to be continued after pressing a key, simply add a Pause Marker where the show is to stop.

- The integrated variable functions enable you to set up counters, define conditions and make decisions based on which shows can be started, terminated or jumps into other shows effected. More about this can be found on page **Fehler! Textmarke nicht definiert.** in chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**.

- SC Master audio management allows controlled changeover from one show to another, thus preventing abrupt interruptions of sound. More about this can be found on page **Fehler! Textmarke nicht definiert.** in chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**.

- A key mask allows disabling, enabling or logic connection of individual inputs, thereby giving you complete control over

external applications. (See page **Fehler! Textmarke nicht definiert.**).

- You should also pay special attention to the topic "Special functions for the SC Master" in the Wings Platinum Online Help. There you will find additional information on variables, volume control, key masks or logical show management.

Producing a show medium

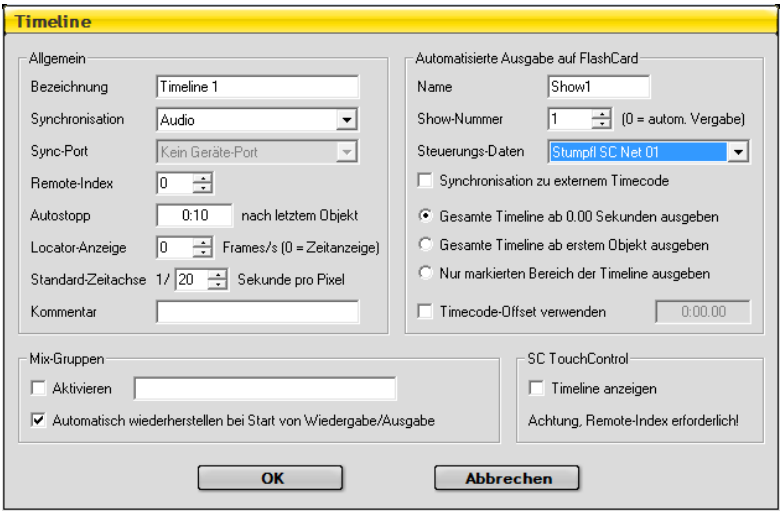
General

Once you have completed your project and want to present it without PC you need to create presentation data for the SC MASTER 6/16. These are the control signals for the show on the one hand, and the compressed audio data on the other.

Generating data for the SC MASTER 6/16

1. The presentation data for the CF card are generated and, first of all, stored on the hard disk. These are the control signals for the show on the one hand, and the soundtrack elements compressed in accordance with the MP3 data compression format on the other.
2. The presentation data prepared such are then transferred from the hard disk onto the CF card. This requires a computer with CF card drive, which is also available as external unit with USB connection. Or, as an alternative, you can also use the PCMCIA slot of your notebook via a CF card adapter. Please note that the CF card must be formatted to the FAT file system and NOT to the FAT32 or NTFS file system!

3. If your project consists of several shows, you should fill in section "Automated output to flashcard" in the Timeline Properties dialog. This allows for a better overview over flashcard shows on tab Timeline on the one hand and enables you to generate the entire project data for storage on CF card at the push of a button. Important entries are name, show number and choice of control data, which is usually "Stumpfl SC Net 01". Make sure the entries are plausible. Wings will not make any automatic corrections!



Option "Use timecode offset" and entry of a corresponding value is only necessary if you want to use CUE OUT SMPTE to generate timecode which is to contain a time value that is different from the current show time.

The FlashCard Dialog in Wings Platinum

The presentation data for CF card are generated in Wings Platinum via the FlashCard dialog, which can be called up via the main menu "Output"/"FlashCard...".

The FlashCard Dialog is the central tool for generating, transferring and managing CF card presentation data.

The left field contains a list of card directories. One directory always stands for the contents of one CF card, i.e. it is the inverted image of a CF card on the hard disk.

generates a new card directory.

copies a card directory onto the CF card.

deletes a card directory and its contents.

The centre field lists the shows contained in the highlighted card directory. The number in front of the show refers to its position on the CF card. The plus sign indicates that the required data for the show are available. A question mark would indicate that the data are missing. At the top, next to "All" you can see the volume of data contained in the highlighted card directory.

deletes a show and the pertaining MP3 files.

The field on the right lists all MP3 compressed audio files used in the highlighted show. The plus sign in front of a name indicates that the required data for the show are available. A question mark would indicate that the data are missing.

plays back an MP3 file.

Double-click the show name or MP3 files to open a dialog box where you can specify the names and other characteristics for shows. More information can be from page 33 onwards.

By checkmarking **Update show file only (without audio files)** you can update the presentation data without having to re-render the sound track. To do so, highlight the show to be updated in the centre column and click "Create single show". Only use this option if you have not made any changes to the sound track! Otherwise show playback may no longer be in sync.

Generating presentation data for the CF card

During this process, the presentation data for a project are, first of all, created and then saved to the hard disk. Please note that an MP3 encoder must be available on the computer to be able to compress audio data in accordance with the MP3 compression format. Usually, the Lame encoder is already installed. Information on how to get hold of alternative encoders and how to install them can be found in the Wings Platinum Online Help.

This is how you generate the data for the CF card:

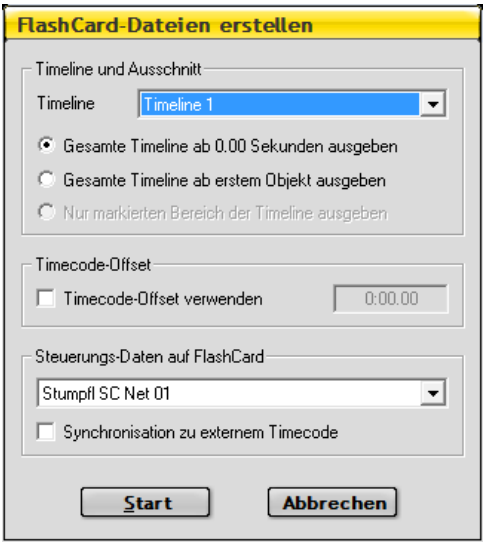
After defining the parameters for the individual shows in the Timeline Properties as explained above, you just click "Create complete project" and Wings will automatically generate all CF card data.

If you haven't entered the parameters or if you only want to recreate the data for one individual show, you proceed as follows:

1. Load the show or project you want to generate presentation data for and click "**Output – FlashCard...**" in the main menu.
2. Under "**Card directories**" highlight the card directory you want the new data to be copied into. Or create a new card directory, by clicking .
3. In field "**Show name**" enter a name for your show. The maximum number of characters to be entered is eight. No

special characters are allowed. Now click "**Create single show**".

4. Select the required timeline under "**Timeline and portion**". The default setting "**Timeline1**" only needs to be changed when there are several timelines.



5. Select the project portion for which presentation data are to be generated.

   The following options are available:

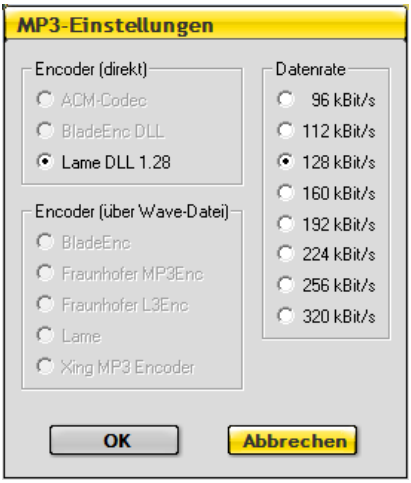
   - "**Complete timeline from 0:00 seconds**" ... just like the timeline, the show starts at zero seconds, so that a possible leader up to the first object is also included and finishes after the last object.
   - "**Complete timeline starting with first object**" ... the show starts before the first and finishes after the last object. (.... recommended for CF cards)

- "**Only selected portion of timeline**" .... only the selected portion of the timeline will be considered. If no portion is highlighted this option cannot be selected.

- **Timecode Offset:** Offset for the SMPTE timecode generated at the CUE output. The specified time value is added to the current show time. When there are several shows running in parallel the time value of the show that was started first is used for the timecode.

6. Select the device port the control data of which are to be used. Normally, you can leave the default setting. Alterations may only be necessary when several device ports are used. Now click "**Start**".

7. Select an MP3 encoder. The encoders listed under "**Encoder (direct)**" will generate MP3 files without saving any temporary data on hard disk. **"Encoder (via wave file)"** will temporarily save the sound track as wave file in the FlashCard directory, use it for MP3 file generation, followed by deleting the wave file again. You only need to make sure that the drive of the FlashCard directory has enough memory capacity.



8. Now select a data rate. Usually, 128 kbits/s should be sufficient for CD quality. If you are not satisfied with the quality try to improve the result by choosing a higher data rate.

9. Click "**OK**" and the presentation data will be generated.

Please note the following:

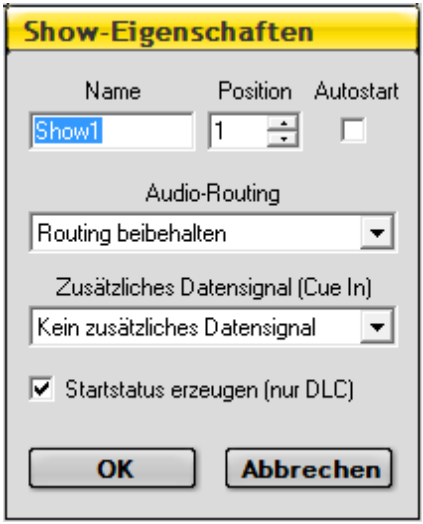
- While creating the presentation data, several windows will appear in accordance with the MP3 encoder used and disappear again.
- When presentation data have already been generated for a project, any alterations to the picture objects can easily be updated without renewed sound rendering: Highlight the corresponding show in the FlashCard dialog box and checkmark **"Update show file only (without audio files)"** followed by clicking **"Create individual show"**.
- Only change the contents of card directories via the FlashCard dialog in Wings Platinum. When using Windows Explorer to do so, pieces of information relevant for the

SC MASTER may not be updated and you might end up with problems running the shows.

- You can transfer old and new shows together onto one CF card, if you specify the same directory for CF card data in both programs. In the FlashCard dialog of both programs, all presentation data of your shows will then be visible.

Specifying show properties

You can assign certain control properties or audio functions to the shows, which are then evaluated by the SC MASTER 6/16 during show presentation. Open the dialog box by double-clicking the show name.



The name can be altered in field "**Name**".

Field "**Position**" defines the position of the show on the CF card. This is the number you can enter later on via the IR remote control unit to start the show.

When "**Autostart**" is checkmarked, the show is started automatically after powering up the SC Master 6/16.

Fields "**Audio Routing**" and "**Additional data signal**" are irrelevant for the SC MASTER 6/16.

Under **Create Start Status** you can lay down whether the start status of the show is to be transferred to the control system, or whether playback is to start on the basis of the corresponding control system status. This parameter applies to DLC signals only. For normal shows the checkbox should be checked. However, it should be unchecked, if jumps from one show to another are included.

Click **OK** to save all the selected properties within your show.

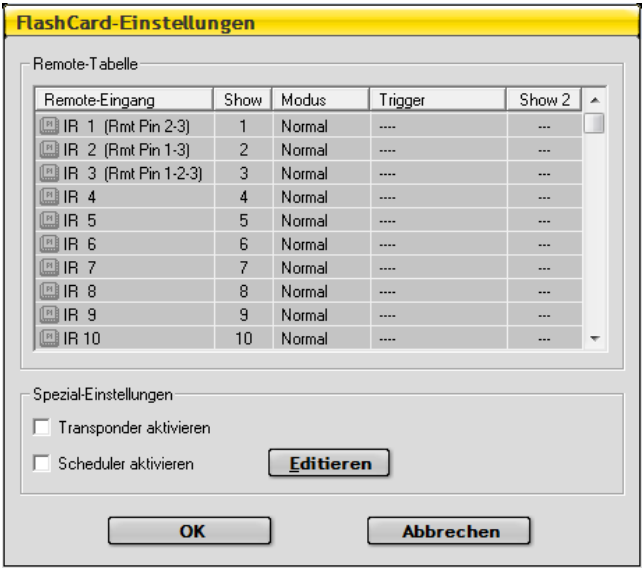
Editing Remote properties of shows

For Show Control applications, shows frequently need to be remotely controlled. The SC MASTER 6/16 allows you to start shows simultaneously or interactively from CF card by pressing certain keys or via remote commands. This is defined in the CF card Remote Table. The following options are available:

- Linking keys on an IR remote control to a show
- Linking remote commands (RS 232 or keypad) to a show. For keypads, a certain trigger can be specified for the switching contact (close or open). If "Close/open" is selected, a second show can be started when the contact opens.
- Allocating a mode for show start.

And this is how it is done:

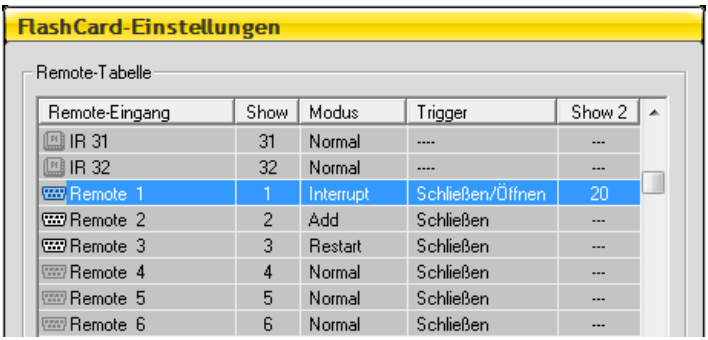
1. In the main menu, click **Output – FlashCard...** and the FlashCard dialog will appear.
2. Double-click the corresponding FlashCard directory and the dialog box **FlashCard Settings** will appear. In column **Remote Input** you will find the 32 keys of an IR remote control unit, followed by an additional 200 remote inputs below in accordance with the definition in the Wings Platinum SC Net options. Each of these Remote inputs can be linked to a show and a mode be determined for show start. At IR1, IR2, IR3 the three possible remote switch inputs are managed as well.



3. Highlight the corresponding Remote input.
4. In column **Show** click on the entry field, enter the corresponding show number and press **Enter**.
5. In column **Mode** right-click the entry field and select the corresponding mode for the remote behavior of the show. The various modes have the following effects:
    - **Normal** ...normal show start. Is only possible when no show is on; a running show is not interrupted.
    - **Interrupt** ....show start interrupts any show being played back.
    - **Terminate** ...show start terminates only other shows but not itself.
    - **Add** ...starts an additional show, provided it is not already running. It is played back simultaneously with any other running shows. Up to 18 shows can run in parallel. Please bear in mind, that this Start Mode interrupts the sound of other shows if they use the same stereo output.
    - **End** ...terminates show playback. Is used for terminating individual shows; other shows continue.
    - **Continue** ...continues the selected show, when playback was paused at a pause marker or an X-time.
    - **Continue all** ...continues all shows paused at pause markers or X-times.
    - **Memory** ...a show is preselected and started automatically at the end of the running show.

- **Restart** ...starts one show additionally, a running show is started again from the beginning, other shows continue.

6. When using one of the inputs **Remote 1** to **200** you can specify whether the show is to start when the switching contact opens or closes. Right-click column **Trigger** and select **Close** or **Open**. If **Close/open** is selected, a second show can be chosen for opening.



In the example above show 1 is started when the contact closes, while show 20 starts when the contact is opened. Therefore, show 1 can be continued by holding down the key and terminated by releasing the key, which starts show 20.

7. Finish by clicking OK.

Special settings

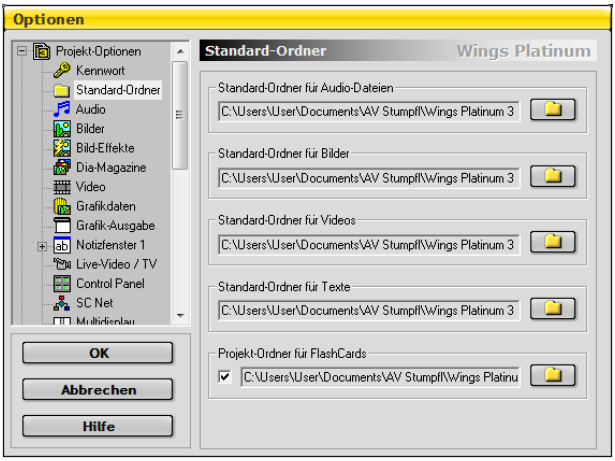
Below you will find a few special settings:

Activate transponder ...prepares a CF card for communication with a transponder (see page **Fehler! Textmarke nicht definiert.**).

Activate scheduler ...prepares a CF card for time-controlled show start. In addition to this you need to create a scheduler file containing the control information for the show starts. Further information can be found in the Wings Platinum Online Help and on page **Fehler! Textmarke nicht definiert.**.

Editing Remote properties in SHOW.INI

The remote properties can also be edited with an ASCII Editor, such as Notepad, for example, in the SHOW.INI. This may be quite useful in emergency situations. SHOW.INI is located in every CF card directory. Unless you have specified any other location, the show data for the SC MASTER 6/16 can be found in the default folder the location of which can be found in the Options Dialog:



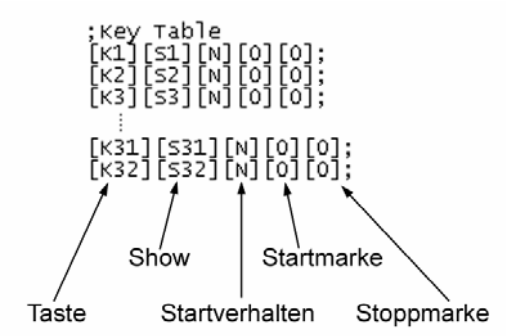
Important:

- Only edit sections "Key Table" and "Remote Table"; never any other sections.
- Only edit contents of CF card directories via the FlashCard Dialog in Wings Platinum; never use Windows Explorer to copy files.

The Key Table

This section is located at the end of SHOW.INI and defines the properties for using an IR remote control unit. It refers to keys 1 to 9 of the standard remote control unit or to all 32 keys on the unlabelled IR remote control (customized version).

The parameters are arranged as follows:



K1...32 addresses the corresponding key on the IR remote control unit

S1...200 addresses the corresponding show to be started by means of the previously defined key.

The Start Behavior of the addressed show can be defined as follows:

N Normal start. A show can only be started if no other show is running. The currently running show is not interrupted.

I Interrupt Start; every running show is terminated

B A running show is started again from the beginning, other shows continue.

T Terminate Start; terminates only other shows but not itself

M Memory start; a show is preselected and started automatically at the end of the running show

A Added Start; show is run simultaneously in addition to the running show. A maximum of 18 shows can be run simultaneously.

E End of show playback. Is used for terminating individual shows; other shows continue

Entry for start and stop markers is irrelevant for the SC Master 16 and must remain at 0.

The Remote Table

This section of SHOW.INI is located directly below the Key Table. It refers to a keypad matrix with 16 keys connected to the DATA IN/OUT connector or to the extension of remote inputs by SC Net modules. The syntax for the Remote Table is identical to that of the Key Table. Only the start and stop markers are missing.

Data transfer to CF card

After generating the presentation data for the SC MASTER 6/16, you can transfer them onto CF card. For copying onto CF card, the computer must be equipped with a CF card drive. Such drives are also available as external drives with USB connection. If you use a notebook, a CF card adapter for the PCMCIA slot will suffice.

Copying the show data onto a CF card

This is how you copy previously prepared presentation data onto CF card:

1. In the main menu, click "**Output – Flash Card...**"
2. Insert the CF card into the CF card drive of your computer.
3. Under Card directories mark the card directory you want copied onto CF card and click .
4. Select the letter for your CF card drive. If you don't remember, look it up in the Windows Explorer.

Kopieren auf Flash Card
Das unten ausgewählte Flash Card-Laufwerk wird bei diesem Vorgang zunächst komplett gelöscht! Sie können dies nicht rückgängig machen!
Flash Card-Laufwerk
C D E F G H I J
K L M N O P Q R
S T U V W X Y Z
OK
Abbrechen

5. Click "**OK**". The data are then transferred onto the CF card.

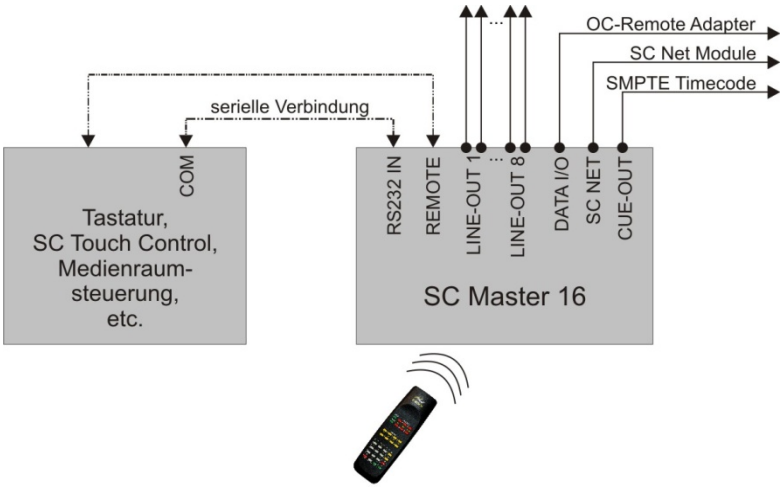
Please note the following:

- If you transfer a card directory onto the CF card, the existing files on this CF card will be erased!
- The situation is different for updating a show or for a directory which is already located on the CF card: In this case, only the modified or new files are transferred. This is a great advantage for editing shows as data transfer and transfer time are reduced to the absolutely necessary.
- Should there be an error during the file transfer, the CF card must be formatted (exclusively to FAT16 file format!) and the presentation data be transferred again. A failure to do so may result in problems during show playback.

Playback of shows

Presentations - compact layout and comfortable handling

For playing back show or audio projects you need a CF card that contains the show data that have been prepared beforehand using Wings Platinum. In principle, the configuration is the same as for programming. However, no PC is required but possibly an additional, external remote control unit.



What and how many external devices are connected, depends on your project.

This is how you start a show:

➔ Start up the system

➔ Insert the CF card into the SC MASTER 6/16 slot, unless this has been done beforehand. As a consequence, a message will appear on the SC MASTER 6/16 display saying that the card was detected.

➔ Starting the show: Start the show by pressing the corresponding number keys on the IR remote control unit. On the SC MASTER 6/16 display the show title appears; for audio playback the level display will appear. In addition to this, the red SHOW LED lights up or flashes when it encounters an X time. The connected peripheral devices will start communicating and executing your program. The flashing CUE LED indicates that a control signal (DLC or MateTrac) is being generated. C NET LED provides information about communication within the SC network.

The show is running ...!

➔ Press key PLAY ▶ or a number key to start from an X time. The display and the flashing SHOW LED will tell you when the program stops at an X-time.

➔ Press key STOP ■ on the IR remote control to stop the show. The message on the display will be "Show Pause". Press the STOP key ■ once again to continue the show.

➔ The volume of the individual stereo channels one to eight can be adjusted by means of the yellow CARD VOLUME keys 1/5 to 4/8 on the IR remote control unit. The display shows which stereo pair is controlled. Choose CARD 1-4 or CARD 5-8 to select whether the first four or the last four stereo pairs are to be controlled.

➔ By pressing both CARD VOLUME keys (▼ and ▲) of a channel simultaneously, the corresponding stereo pair is muted. On the display you can see an "M" instead of the level display. Press one CARD VOLUME key to cancel muting of this stereo channel.

➔ Joint volume control of all channels is possible via the VOLUME keys. Keys TREBLE and BASS control the sound of all channels.

➔ If you want to terminate the show prematurely, press the STOP key ■ for more than 2.5 seconds or the ESC key on the SC MASTER for more than one second.

Extended selection of shows

Switch on the system and insert the CF card into the SC MASTER 6/16. To extend the options for show selection you have two alternatives:

Show selection via the IR remote control unit

➔ Press the YES key: The display will show "Start Show:___".

➔ Now enter a number from 1 to 200 via the number keys in order to select a show. Any keying errors can be deleted by pressing the "NO" key and entering the number again. Interrupt show selection by pressing "NO" once again.

➔ By pressing button "YES" the selected show is started.

Show selection via buttons on the device

➔ Press the ENTER key: The display will show: "Start Show?" Confirm with ENTER.

➔ Select the required show with keys ↑ and ↓ . The display will give you show number and title. Hold keys ↑ or ↓ to make the display "run". This is a nice feature if you want to move to far-away positions very quickly.

➔ Press ENTER when the name of the required show is displayed, and the show will start immediately.

IR remote control range

The IR remote control unit works perfectly at a distance of between 0.3 m and 15 m. At a distance below the minimum distance of 30 cm overdrive problems may occur, which restrict infrared reception. At the maximum distance of 15 to 30 m it largely depends on the layout of the room where the SC MASTER 6/16 is used. Light absorbing components, such as curtains etc. may reduce the range. In such a case, we would recommend using a cable remote control unit. It is connected to the REMOTE connector of the SC MASTER 6/16.

Show Start with Timer

The SC MASTER 6/16 is equipped with a timer for time-controlled show playback.

Parameter settings can be made in menu "Timer". Further information can be found in chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** from page **Fehler! Textmarke nicht definiert.** onwards.

Time-controlled show start via the Scheduler

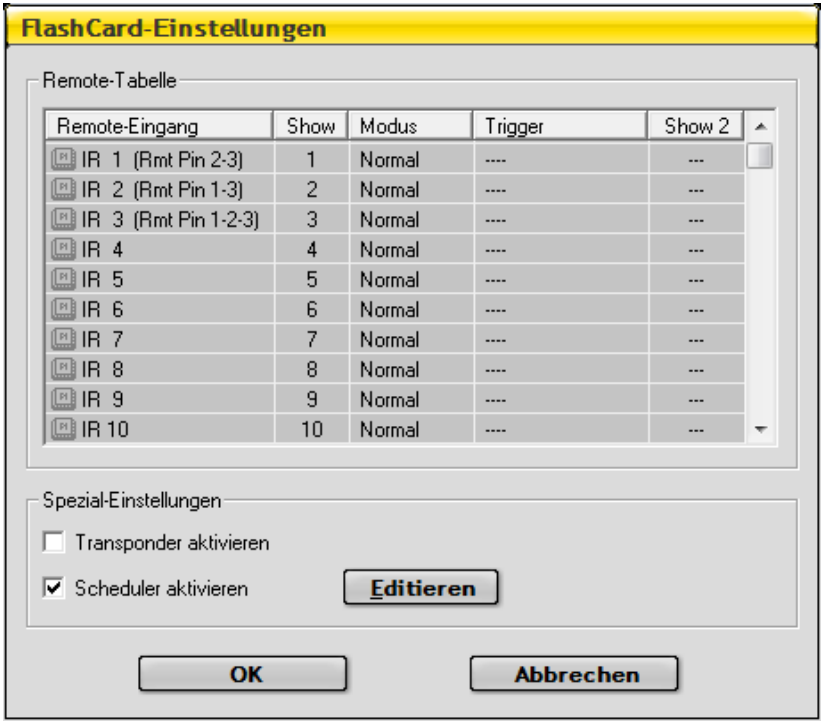
A show on the CF card can also be started in dependence on date and time settings. This requires the DCF-77 Receiving Module **SCF-RCC.** This Receiving Module is able to receive the radio clock signal of the Frankfurt transmitter in nearly all regions of Europe. This signal contains the current date and Central European time.

The DCF-77 Receiving Module is connected to the Remote connector of the SC MASTER 6/16. As an indication for a correctly received signal, the PC LED flashes briefly every second, but only if the PC connection has been established. After a synchronization period of about 2 minutes, the current date and time will appear on the SC MASTER 6/16 display.

For optimum reception, the DCF 77 Receiving Module should be mounted in the open or at least in a location which is not close to any metal objects. The orientation of the Receiving Module should be such that the arrow on the housing points towards Frankfurt.

A Schedule file allows you to specify the time, when the SC MASTER 6/16 is to start a particular show. This file must also be located in the corresponding CF card directory. Obviously, you should create the file via the "Edit" button in the "Flash-Card Settings" dialog. This ensures that the file is located in the correct directory. Additionally, you should place a check-mark next to "Activate scheduler".

Details on the command syntax are described in the Wings Platinum Online Help.



Show start via transponder

The transponder is an Identification Module containing unambiguous code for contactless read-out via the corresponding Reading Module. These transponders are available as key rings, bank cards or watches.

This unambiguous code allows one particular show on the CF card to be assigned to a transponder. This way, an English

speaking visitor in a museum, for instance, gets a transponder, that starts only shows in English.

Before a transponder is able to start a show, its number must be entered in a file. This transponder file is generated by means of an SC MASTER 6/16 unig.

- For this purpose, connect the Transponder Reading Module **SCZ-RFID-RCV** to the RS232 OUT connector of the SC MASTER 6/16.
- In the menu select "RS232 OUT" as "Driver" transponder. Switch off the SC MASTER 6/16 and on again for it to change over to Transponder mode.
- Insert a CF card into the card slot.
- Press the ENTER key on the SC MASTER 6/16 and change over to menu item "Learn transponder" using the arrow keys. Confirm with ENTER.
- Using the arrow keys, select the number of the show the transponder is to start.
- Hold the transponder in the reception range of the reading device (at a distance of approx. 4 cm).
- Once the transponder has been read, the display will show "Transponder read Enter for next". Confirm by pressing the ENTER key and repeat reading for the next transponder.
- Once all transponders have been registered, press the ESC key. Confirm question "Make Transponder File" by pressing the ENTER key.
- The transponder file will then be created on CF card and may be edited at a later time using a text editor.

- Edit the transponder file directly on the CF card to ensure that it always up-to-date. After editing you can copy it into the CF card directory. Please DO NOT rename it!

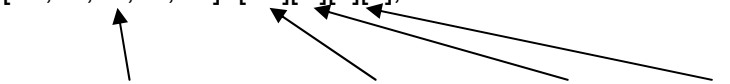
Transponder file "Transpnd.tpd" looks about as follows:

T0;

[04,60,25,91,1F]=[S1][I][0][0];

[04,10,C4,33,1F]=[S2][I][0][0];

[0F,00,56,31,C2]=[S1][N][0][0];



Transponder number, show number, start mode, marker

It is possible to edit columns show number and start mode. By changing the show number any show ranging from 1 to 200 can be assigned to a transponder. The code for the start behavior is described on page **Fehler! Textmarke nicht definiert.** in chapter "**Fehler! Verweisquelle konnte nicht gefunden werden.**".

To allow the SC MASTER 6/16 to use the transponder file, option "Activate transponder" in the "FlashCard Settings" must be enabled.

Structure of the card player

General

SC MASTER 6/16, in one tiny little unit, offers highly sophisticated control and sound technology. The audio components it contains are a card player with up to 16 channels, corresponding to 8 stereo channels. Every stereo channel has separate volume and sound control. Moreover, there is also a master volume and sound control.

MP3 Card Player

The card player uses CompactFlash Cards as storage medium, just like those used in digital cameras. For CF cards no moving mechanism is required, so that the card player is virtually wearfree.

Before saving the audio data onto CF card, they are compressed by an MP3 encoder in Wings Platinum. The possible playing time depends on the memory capacity of the card and the extent of data compression. On a CF card with a memory

capacity of 512 MB, for example, more than 8 hours of stereo sound in a CD-like quality can be stored. This is equivalent to a data rate of 128 kbits/s.

The playback quality, on the one hand, depends on the data compression: the higher the data rate, the better the sound. On the other hand, it also depends on the MP3 encoder used. Wings Platinum allows you to use MP3 encoders by different producers. Further information on this subject can be found in the Wings Platinum Online Help or on the Internet at http://www.xingtech.com/mp3/

In the list below you can find out about the dependencies between memory space requirements and extent of compression. It applies to stereo sound.

Data rate	CF card	512 MB	1 GB	2 GB
128 kbits/s	**Playing time**	**8 hours**	**16 hours**	**32 hours**
192 kbits/s	Playing time	6 hours	12 hours	24 hours
256 kbits/s	Playing time	4 hours	8 hours	16 hours

In relation to the audio data, the size of show data is negligible. Even comprehensive shows require only a few MB.

Playback of synchronized multi-channel sound

MP3 only supports stereo files. Therefore, multi-channel sound requires a show project, in which several stereo samples are started simultaneously. For technical reasons, SC MASTER 6/16 does so with a tolerance of plus/minus two sample values, which is about the same as displacing one loudspeaker forward or backward by 8 mm with reference to the other. In

practice this is negligible, however, sound channels with a critical phase relationship should possibly be saved in one stereo sample.

Volume and sound control

The Master Volume is controlled via the VOLUME keys and a separate hardware control unit, i.e. it is completely independent of the stereo channels volume control. BASS and TREBLE control via the corresponding keys (master area on remote control), on the other hand, is performed by jointly adjusting the stereo channel sound controls. While doing this, the display will briefly show the parameter and its value. The time for displaying temporary messages can be adjusted in menu **Fehler! Verweisquelle konnte nicht gefunden werden.**. See page **Fehler! Textmarke nicht definiert.** onwards.

The menu also contains one control each for every stereo channel for volume, bass and treble adjustment. Basic values to be applied after switching on, can be set via "SaveVolume". See page **Fehler! Textmarke nicht definiert.**.

Mute Function

The stereo channels can very simply be muted. Press the volume keys ▲ and ▼ for the corresponding channel quickly one after the other. On the display you can see an "**M**" for the corresponding channel pair.

Deactivate muting by pressing the volume key of the channel pair in question.

The SC Net System

General

The SC Net System is a network consisting of an SC Master unit and one or several SC Net modules for controlling a variety of different devices. All SC Net modules are run via one single bi-directional network connection, which also serves as a power supply.

Cable Connections and Power Supply

All components are run via one single network connection made of standard Cat5 cable with a permissible length of up to 300 m. Usually, the modules are connected in series. With a Distributor Module, however, the arrangement of cables can also be star-shaped. Please bear in mind, that such an arrangement will drastically reduce the possible overall length of the network cabling. For such an installation we urgently recommend using CAN repeaters.

The compact dimensions of these modules allow them to be located next to the devices to be controlled so that the numerous connecting cables only need to be branched off at this location and can be kept very short. Unused SC Net outputs must be provided with a terminating resistor of 120 Ohm.

The SC Net modules are supplied via additional power supply units. The power supplied additionally is not only available for

the module connected to the power supply unit, but for all SC Net modules within the network. Usually, the power supply unit AC-3 can supply up to five SC Net modules. However, there are also some modules which require a separate power supply unit.

Address configuration

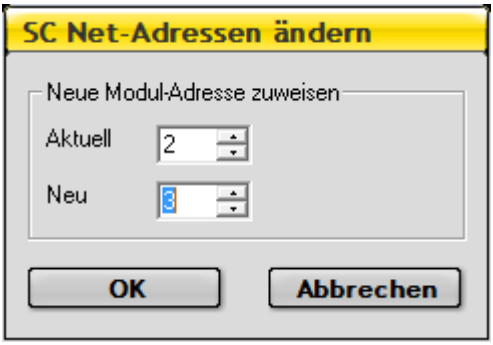
Device address 1 is always allocated to the master unit. Device addresses 2 to 125 are used for the modules (slaves) within the network. If address 2 or higher is allocated to an SC Master unit, it is regarded as a module within the network.

Every SC Net device offers particular functions which can be addressed via subaddresses. After adding SC Net devices under "**Devices**" in the Wings Platinum Media Pool, they are listed with their particular functions while Wings Platinum automatically allocates an address. This address, however, can be altered at any time. An SC RELAY 8out, for instance, would be visible as 8 switching contacts and that might have addresses **2/1** to **2/8**. In this case, **2** would be the device address and 1 to 8 the subaddresses of the individual relay contacts.

Setting addresses in the Media Pool

If you want to change individual address settings in Wings Platinum, e.g. when different hardware is to be used for controlling, proceed as follows:

1. Click tab **Devices** in the Media Pool . If the corresponding devices are not displayed, click on the plus sign in front of the device port.
2. Right-click the corresponding control channel and select **Properties**. The Properties Dialog will appear.
3. Under **Address** enter the new address and confirm with **OK**.
4. Menu item "**Change SC Net addresses**" enables you to change the address for an entire module.



Setting the addresses at the hardware

For an SC Net Module to be able to perform the programmed functions, the device address listed in the Media Pool under **Devices** must be set in the module. Currently the address setting is performed via SC Master components. At a later time, this will also be possible via Wings Platinum.

This is how you set the device addresses at the SC Master and the SC Net Modules:

1. Connect the SC MASTER 6/16 with the SC Net modules and switch on the system.
2. In the SC MASTER 6/16 menu go to "Options – SC-Net – **IntNetAddress**" and select **INetAddrs = 1**.
3. In order to establish communication within the SC Net, switch on the SC MASTER 6/16 off and on again. When starting up the SC MASTER 6/16, a message such as "**SC Net Baudrate: 184320"** must briefly be displayed (the value depends on the baud rate). After communication has been established, the blue SC NET LED at the SC Net modules will briefly blink at an interval of three seconds. In the event of no communication being established, refer to page 61 for further information.
4. Return to the menu and select the address you want to allocate to an SC Net module under "Options – SC-Net – **ExtNetAddress**", e.g. **ENetAddrs = 2**.
5. By pressing Enter at the SC MASTER 6/16, all connected SD Net modules are set to configuration mode. This is indicated by the **DATA** LEDs flashing while the SC MASTER 6/16 is sending the address into the network. Both remain active for 20 seconds.
6. During this time, press the Setup button on the SC Net module to be configured to save the address. You may have to use a pen to press the setup button. This terminates configuration mode for the corresponding module.
7. Repeat items 4 to 6 until all SC Net modules have been addressed in accordance with your requirements.

Note: You can now check the address set for the module. If you press the Setup button, device type and module address

are briefly displayed on the Master unit display. If this does not work for your units, you may have to update the operating software.

Subadresses of the SC MASTER 6/16

The SC MASTER 6/16 features various interfaces which can be addressed as follows for SC Net operation:

Display **/2** (..for information on the output of messages refer to the Wings Platinum Online Help**)**

DMX/DALI **/3** and up (up to 64 DMX channels, output to the REMOTE connector)

Switch outputs **/70** and **/71** (open-collector outputs at the REMOTE connector)

RS232 **/90** (RS232-OUT connector)

RS232 **/91** (RS232-IN connector)

These addresses are assigned automatically by Wings Platinum when you add an SC Master unit to the Device Pool.

When adding individual devices make sure that addressing of the corresponding hardware is also adjusted accordingly. Wings Platinum will use the first free addresses in the system.

Ensuring communication within the SC Net

For an SC Net system to work reliably, the data rate needs to be set to an appropriate value. SC MASTER 6/16 automatically negotiates the baud rate with the modules, provided setting "**Auto Baud**" has been chosen in Menu "Options – SC Net – **SCNetBaudRate**". However, the SC MASTER 6/16 cannot say how many modules are connected. This is why, after powering up the system, you need to check whether all SC Net modules communicate with the SC MASTER 6/16. The are certain LEDs at the SC modules which indicate whether communication has been established:

- **POWER LED** ...red lamp that flashes every second when power supply and module are in working order. If the LED is on permanently or not on at all, there is either a malfunction or no power supply.
- **DATA LED** ... lights up in green while the data for the set module address are being transferred.
- **SC NET** LED ... lights up in blue when the module detects some valid activity on the network. This happens usually every 3 seconds in an idling state. If there is more activity on the network bus, the LED lights up more frequently and may even light up permanently.

After powering up the system, all the **POWER** LEDS at the SC Net modules must be on and flash every second, while the **SC NET** LEDs must briefly flash every three seconds. If there is no communication with one module – something that may happen in widely branched networks – you need to reduce the

SD Net baud rate manually until even the last module starts communicating within the network.

If the cable length allows it, you can also set a baud rate that exceeds the predefined value. The maximal baud rate to be set is 460800. This is an appropriate value if a high amount of data is expected to be transferred on the CAN bus. This is very often the case for installations with many DMX channels.

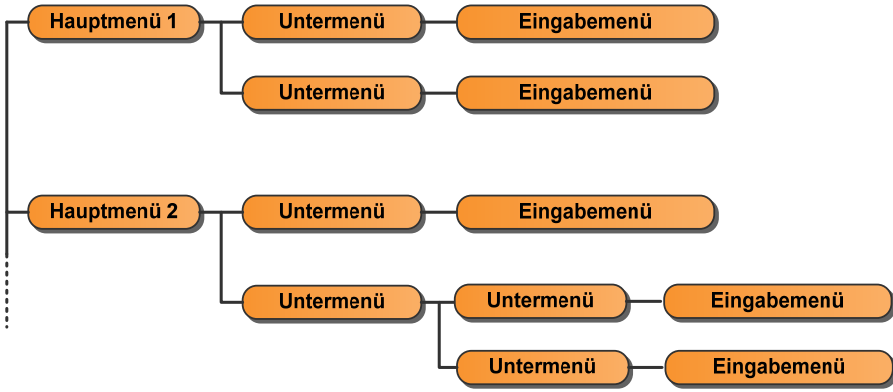
The corresponding settings are made in menu "Options - SC Net - **SCNetBaudRate**". Further information is available on page **Fehler! Textmarke nicht definiert.**.

The Menu

Layout of the Menu

The SC MASTER 6/16 is a modern, software-controlled unit with a number of functions, which would be very difficult to control via switches and keys only. This is why it has an extensive menu for configuration purposes.

Via this menu, the SC MASTER 6/16 is told what to do. In combination with the display and the keys ↑, ↓, ESC and ENTER, the menu is the central input instrument. The menu layout is as follows:

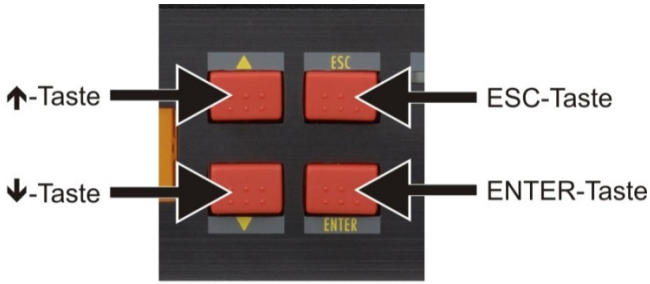


The vertical structure is divided into menu trees while the horizontal structure is divided into menu branches. Every menu branch starts with the main menu and ends with the entry menus.

What can be seen on the display? Just imagine covering this structure with a sheet of paper with a rectangular window just as large as the menu name. What you can see now corresponds to the display. By moving the sheet you can move to other locations in the menu. The display, therefore, only shows a selectable section of the complete menu.

How to use the menu

The best way to comprehend the operating steps is to switch on your control unit and try out the following steps. Print or copy the menu chart and place it next to the unit - this will help you find the corresponding menu more easily.



To enter the menu, press both keys ESC and ENTER simultaneously. The display will show "-Menu-". Confirm with the ENTER key and the main menu opens up. The arrows to the right of the menu name indicate the following:

- The type of arrows «» shows us that we are in the main menu, as sub and entry menus have different arrow symbols (←→).
- The direction of the arrows signalizes whether any further menu items can be found above or below. The double ar-

rows visible in the picture indicate that further menus can be found above and below.

Main menu ....

and sub menu arrows

Entry menu symbols

Let's briefly remember our sheet of paper and the window. Use keys ↑ and ↓ to move the window up and down, i.e. in vertical direction along a menu tree. The ENTER key moves the window to the right, the ESC key to the left, i.e. in horizontal direction along a menu branch.

You can step through the various items of the main menu with keys ↑ and ↓. The main menu is structured as follows:

- "Settings" for loading and saving configurations
- "Options" for selecting special features
- "Sound" for card player configuration
- "CUE OUT signal" for configuration of control signal functions
- "RS232 Out" for configuration of the serial interface, e.g. for a transponder

- "Timer" for setting the timer functions
- "Info" provides information about the device version.

If you want to move to a sub menu, simply press the ENTER key. The type of arrow will now change (←→) as an indication that you are in a sub menu and the direction of the arrows shows whether further menu items can be found above or below (|→ top menu item, ←| bottom menu item).

Press the ENTER key again, and you will move to the next sub menu tree or the actual entry menu (**<>**). This depends on whether there are any further sub menus in this menu branch or not.

From the arrow symbols taking the form of triangles you can see whether you have reached an entry menu. What you can see now is the current setting (******). The two asterisks are an indicator for this.

Use keys ↑ and ↓ to choose from a number of other possible settings. For parameters which have not been activated the arrows take the form of lines. By pressing ENTER the new setting is activated and, as a confirmation, the two asterisks (**) appear.

Parameters not activated Parameters activated

Via the ENTER key you can reach the menu branch but you can also, step by step, move back to the main menu by pressing the ESC key. Once you have reached the main menu and press the ESC key once more, the question "Exit?" will appear

together with an ENTER symbol. By the way, this symbol signalizes that a confirmation is required before the corresponding menu item can be activated. By pressing the ENTER key you can exit the menu.

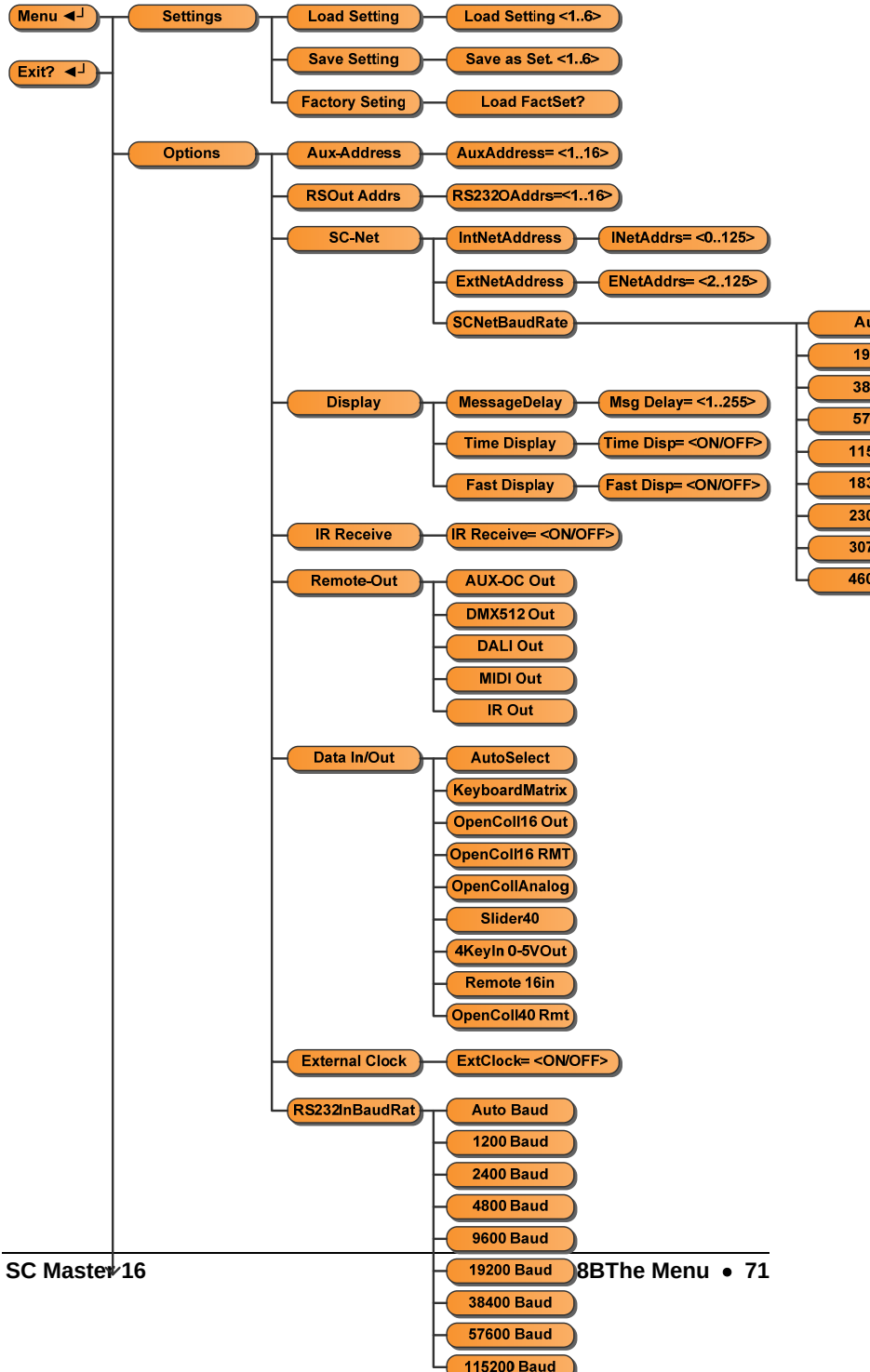
Good. Now you know how to enter a menu, how to navigate through it and how to make settings. So nothing can keep you from exploring and finding out about all the other menus. On the next page you will find a menu chart and, in the following chapters, information about any possible settings, organized according to main menu items.

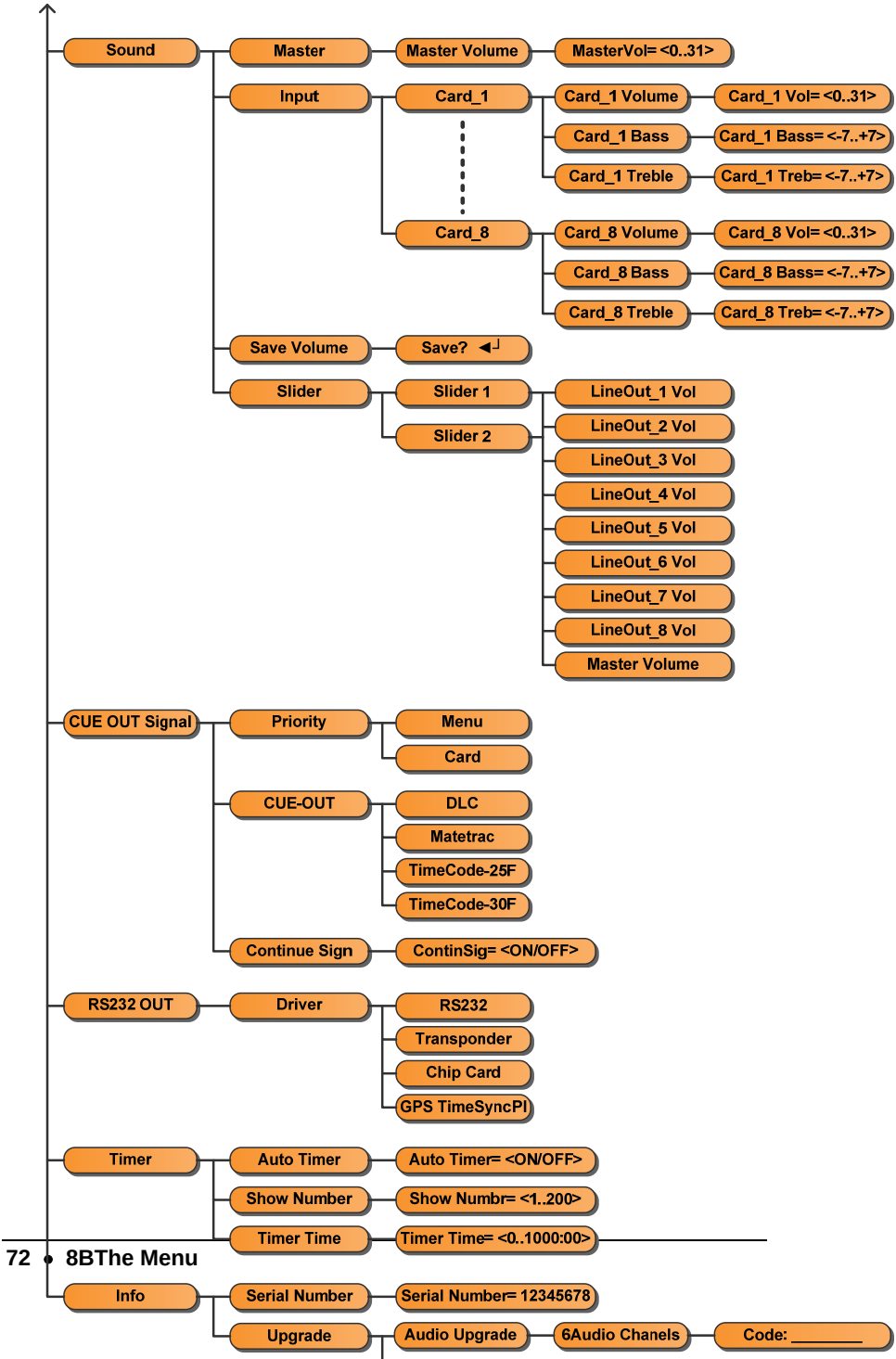
Menu operation via IR remote control

Once you have entered the menu, the menu functions can also be controlled via IR remote control:

IR remote control unit	Menu function
PLAY key ▶	ENTER
STOP key ■	ESC
Skip keys ▶▶ and ◀◀	Keys ↑ and ↓

Menu Chart


Menu ◄┘
Exit? ◄┘
Settings
Load Setting
Load Setting <1..6>
Save Setting
Save as Set. <1..6>
Factory Seting
Load FactSet?
Options
Aux-Address
AuxAddress= <1..16>
RSOut Addrs
RS232OAddrs=<1..16>
SC-Net
IntNetAddress
INetAddrs= <0..125>
ExtNetAddress
ENetAddrs= <2..125>
SCNetBaudRate
Au
19
38
57
115
183
230
307
460
Display
MessageDelay
Msg Delay= <1..255>
Time Display
Time Disp= <ON/OFF>
Fast Display
Fast Disp= <ON/OFF>
IR Receive
IR Receive= <ON/OFF>
Remote-Out
AUX-OC Out
DMX512 Out
DALI Out
MIDI Out
IR Out
Data In/Out
AutoSelect
KeyboardMatrix
OpenColl16 Out
OpenColl16 RMT
OpenCollAnalog
Slider40
4KeyIn 0-5VOut
Remote 16in
OpenColl40 Rmt
External Clock
ExtClock= <ON/OFF>
RS232InBaudRat
Auto Baud
1200 Baud
2400 Baud
4800 Baud
9600 Baud
19200 Baud
38400 Baud
57600 Baud
115200 Baud


Sound
Master
Master Volume
MasterVol= <0..31>
Input
Card_1
Card_1 Volume
Card_1 Vol= <0..31>
Card_1 Bass
Card_1 Bass= <-7..+7>
Card_1 Treble
Card_1 Treb= <-7..+7>
Card_8
Card_8 Volume
Card_8 Vol= <0..31>
Card_8 Bass
Card_8 Bass= <-7..+7>
Card_8 Treble
Card_8 Treb= <-7..+7>
Save Volume
Save? ◄┘
Slider
Slider 1
Slider 2
LineOut_1 Vol
LineOut_2 Vol
LineOut_3 Vol
LineOut_4 Vol
LineOut_5 Vol
LineOut_6 Vol
LineOut_7 Vol
LineOut_8 Vol
Master Volume
CUE OUT Signal
Priority
Menu
Card
CUE-OUT
DLC
Matetrac
TimeCode-25F
TimeCode-30F
Continue Sign
ContinSig= <ON/OFF>
RS232 OUT
Driver
RS232
Transponder
Chip Card
GPS TimeSyncPI
Timer
Auto Timer
Auto Timer= <ON/OFF>
Show Number
Show Numbr= <1..200>
Timer Time
Timer Time= <0..1000:00>
Info
Serial Number
Serial Number= 12345678
Upgrade
Audio Upgrade
6Audio Chanels
Code: _____

The Menu Items

Setting

Load

For loading or activating all previously saved configurations, i.e. complete menu settings. Via input menu "Load Setting 1...6" you can select one out of seven previously saved configurations.

Save

For saving complete menu settings. Entry menu "Save as Set 1...6" allows you to select one out of seven memory locations. It is always the loaded or activated configuration which is saved.

Factory

In case of operating errors or if you happen to have muddled up things, just use "Load FactSet?" to restore the factory-set default settings for all parameters. It is defined as follows:

Aux-Address	1
RS232Out Addrs	1
IntNetAddress	0

ExtNetAddress	2
SCNetBaudRate	Auto Baud
Display/MessageDelay	80
Display/TimeDisplay	OFF
Display/FastDisplay	OFF
IR Receive	ON
Remote-Out	AUX-Out
Data In/Out	Auto Select
External Clock	OFF
RS232InBaudRat	Auto Baud
MASTER/Volume	31
Card_1 to Card_8	
Volume	27
Bass	0
Treble	0
Signal/Priorty	Card
Cue-Out	DLC
Continue Signal	ON
Driver	RS232
Auto Timer	OFF
Show Number	0
Timer Time	0000:05

Options

Aux Address (Auxiliary Address) only for DLC mode

This menu specifies the address position of a connected Open-Collector Module (AuxAddress= 1...16) in DLC mode. The Open Collector Module does not use the set address group, but the one following after. E.g. if AuxAddress a=1 is set, the first four addresses (A1 to D1) remain unconsidered and the Open-Collector Module starts switching from address A2 onwards.

This menu is irrelevant for SC Net operation.

RS232Out Addrs (RS Out Address) only for DLC mode

In this menu you can specify which of the 16 addresses in the DLC signal are to be evaluated for the output of serial commands (RS232OAddrs=1...16). The read commands are output to the RS232-OUT connector.

This menu is irrelevant for SC Net operation.

SC Net (SCNet Options)

IntNetAddress (Internal SCNet Address)

Use "IntNetAddress" to set the SC MASTER 6/16's own address within the SCNet for show control applications (INetAddrs=0...125). The master address is always 1; higher addresses mean that the unit is regarded as a module. A setting of 0 (default) disables SC Net operation.

ExtNetAddress (External SCNet Addresses)

This menu is used for allocating addresses to SCNet modules. Select the appropriate module address (Address space 2..125) using the arrow keys ↑ and ↓ and confirm entry by pressing the ENTER key. The DATA display on the connected SC Net modules will start flashing. Within 20 seconds, press the setup button on the appropriate SC Net module. The DATA display will stop flashing and the address be stored in the device.

Repeat this step for all connected modules.

SCNetBaudRate (SC Net Baud Rate)

This menu allows you to influence the speed of communication within the SC Net. The default setting is "Auto-Baud". In this case, the SC MASTER 6/16 starts communication at a baud rate of 19200 and increases the baud rate step by step up to 184300 Baud for as long as a module keeps responding. For networks with a large number of modules or long cable connections it will be safer to set the baud rate manually. Choose a baud rate which ensures that even the last SC Net Module is still able to communicate. If no communication can be established although the cable connection is correct, the baud rate setting is too high. With short cable connections and high data throughput requirements you may very well choose a baud

rate of 460.8 kBaud. The SC MASTER 6/16 will still start testing at a rate of 19200 Baud but it will increase the baud rate to 460.8 kBaud. With higher baud rate settings you need to bear in mind that faulty data transfer also requires a higher degree of SC Net bus verification activity, which in turn may distinctly reduce the data throughput.

Display

The following menus allow you to select the display options.
Note: For more information on the output of individual messages on the display refer to the Wings Platinum Online Help or to chapter "**Fehler! Verweisquelle konnte nicht gefunden werden.**" on page **Fehler! Textmarke nicht definiert.**. The display has the SC NET subaddress /**2**.

MessageDelay

Special information on various events is only displayed briefly on the graphic display. This refers, for example, to controlling the volume via the IR remote control unit.

The period of time these messages are to be displayed can be adjusted via this menu item. The values to be entered range from 0.1 to 2.54 seconds (Msg Delay = 1...254). The factory-set value is 0.8 seconds.

Value Msg Delay = 255 has a special meaning and causes a message to be displayed until some other information comes up.

Time Display

For setting the time display to be seen while playing back MP3 files within a show. With Time Disp= ON the playing time of an MP3 samples is counted down to zero.

Fast Display

Usually, the SC MASTER 6/16 display shows the device designation and firmware version number immediately after switching it on. In total, this takes about 3 seconds. If the SC MASTER 6/16 is to be ready for operation (e.g. to start a show) immediately after switching on, this time delay can be disabled. To display the software version again, "Fast Disp" must be set to OFF.

IR Receive

Use this menu item to switch off reception of IR remote control signals. For large-scale installations with a variety of IR controllable SD components it may be useful to enable IR reception for the "master" unit only (IR Receive =ON), and to disable IR reception (IR Receive =OFF) for all other "slave" units.

Remote-Out

The Remote connector outputs can be configured to fulfill various tasks. For this purpose you partly need special cable adapters which are available as an accessory.

The following functions can be enabled in the submenus: Please consider that only **one** function at a time can be used.

AUX-OC Out ...offers two open-collector switch outputs (SC Net addresses /**70** and /**71** or DLC address **A1** and **B1**, respectively), which can be universally used with two additional relays.

For a corresponding wiring of the REMOTE connector refer to page 119.

DMX512 Out ...Output of DMX512 commands via cable adapter SCK-MDMXE (accessory). As a standard, channels 1 to 6 can be used (SC Net subaddresses from /3 and up). By adding the optional DMX Upgrade Module output can be extended to channels 1 to 64. Always the first 6 or 64 DMX addresses, respectively are referred to, the address position cannot be changed.

DALI-Out ...offers light control via a DALI bus. All 16 DALI groups are available, but there is no differentiation between subaddresses. The first 16 DMX channels are used for programming in Wings Platinum.

MIDI_Out ...for future applications, currently without function.

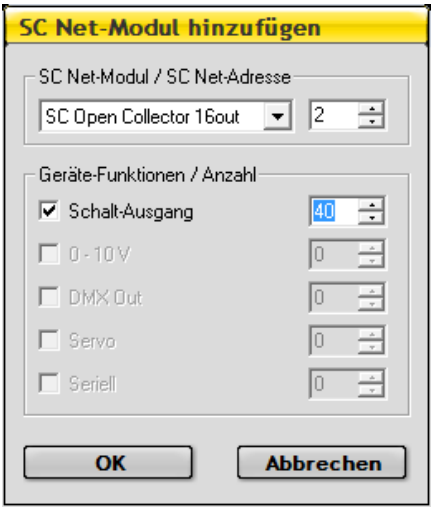
IR Out ...allows transmission of IR commands via a transmitting diode. This function is only available for shows produced with Wings 4.11.

Data In/Out

This menu allows you to select the devices to be operated at the DATA IN/OUT connector. With a default setting of "Auto-Select", the SC Master 6/16 will only detect devices **OC 16 out**, **OC analog**, the **Slider** or a **matrix keypad.** Any other devices must be chosen manually. This setting has only be introduced for compatibility reasons. If no device is connected to the DATA IN/OUT connector, you should choose "KeyboadMatrix".

- **KeyboardMatrix** ...for a keypad or any switching contacts wired in a matrix. This type of wiring allows up to 16 contacts or keys to be connected. In such a matrix arrangement, however, only one key press can be evaluated at a time. If two or more contacts are activated simultaneously, only the first contact in the matrix is evaluated.
- **OpenColl16 Out** ...for the "Open Collector 16" Adapter. This extension features 16 open-collector switch outputs. Although this adapter has been replaced by "Open Collector 16 Remote" we have kept this setting for compatibility reasons.
- **OpenColl16 Rmt** ...for the "Open Collector 16 Remote" Adapter. This adapter has 16 open-collector switch outputs and an additional 8 remote inputs. The 8 remote inputs are run in parallel mode, which means that simultaneous activation of several contacts is also evaluated.
- **OpenCollAnalog** ...for the OC Analog Module with 16 open-collector outputs and 8 analog outputs (0 – 10 V). This module can only run in DLC mode.
- **Slider40** ...for a special input interface with 40 faders.

- **4Key05V** ...for 0 - 5 Volt dimmer (Conrad C-Control-Dimmer) and four switch inputs. The switch inputs are run in parallel mode.
- **Remote 16in** ...for Remote Extension 16in, which allows direct connection of 16 keys without matrix. The switch inputs are run in parallel mode, which means that simultaneously activated keys can also be evaluated.
- **OpenColl40 Rmt** ...for the "Open Collector 40 Remote" Adapter. This adapter has 40 open-collector switch outputs and an additional 8 remote inputs. The 8 remote inputs are run in parallel mode, which means that simultaneous activation of several contacts is also evaluated.



When addressing the "OpenColl40 Rmt" adapters make sure that it is registered at SC Net address **2** as a separate SC Net Module with 40 switching contacts.

External Clock

An SC Master 6/16 can be synced up with one or several SC VIDEO PLAYERS. SC MASTER 6/16 receives the time clock from the SC VIDEO PLAYER, i.e. it serves as a slave. This

way multi-channel sound for surround sound or multi-language installations can be implemented.

For the SC MASTER 6/16 to recognize the time clock you need select **ExtClock = ON**. Moreover, you also need the cable SCK-SCV-SCM_CLK to link up the two **RS 232 IN** connectors of the SC MASTER 6/16 and the SC VIDEO PLAYER.

RS232InBaudRat (Baud rate for RS232-In)

This menu allows fixed baud rate settings for the serial port **RS 232-IN** (**1200 Bd** ... **115.2 kBd**). This setting is required if the SC MASTER 6/16 is run as part of a media control system, which uses a baud rate differing from 9600 Bd. When using the TCP/IP-RS232 adapter **SCZ-TCPIP-RS232** a baud rate setting of 115200 would be appropriate for the data transfer to be effected at maximum speed. The default setting for **Auto Baud** is 9600 Baud. During programming in Wings Platinum the baud rate will be changed in accordance with the SC Net port configuration.

Sound

This menu allows you to carry out settings for the SC MASTER 6/16 audio section.

Master

The values laid down in the following menus apply to the summed mixer level, i.e. to the mix of all audio sources.

Volume

In this menu you can enter the master control volume for the SC MASTER 6/16 after switching on (MasterVol=0...31). Please note: 0 = -79 dB and 31 = 0 dB. Via the IR remote control you can adjust the volume, starting from the pre-set value.

Note: The Master Volume is controlled via a separate hardware control. Sound control, on the other hand, is performed via the master keys on the remote control unit by jointly adjusting the stereo channel sound controls.

Input

The menus below are available for each of the 8 stereo channels Card_1 to Card_8.

Volume

Defines the volume setting for the corresponding stereo channel after starting up the unit (Card_1...8Vol=0...31). A value of 0 = -79 dB and 31 = 0 dB. Via the IR remote control you can adjust the volume individually, starting from this pre-set value.

Bass

For bass settings for the corresponding stereo channels. Values between -7 and +7 can be set. In this context, Card_1...8 Bass= 0 means that there is no change compared to the original, -7 = -14 dB (100 Hz) and 7 = +14 dB (100 Hz).

Treble

For treble settings for the corresponding stereo channel. Values between -7 and +7 can be set. In this context, Card_1...8 Treble= 0 means that there is no change compared to the original, -7 = -14 dB (10 kHz) and 7 = +14 dB (10 kHz).

Save Volume

Saves all current volume levels set via the IR remote control unit. When starting up SC MASTER 6/16 again, those very same volume settings take effect.

Slider

The EC Mixer is a remote control unit with keys and two sliders for connection to the REMOTE connector. Menus "Slider1" and "Slider2" are used for allocating the function to the corresponding slider. It allows comfortable volume control.

Slider1

Slider2

Use menus Slider1 and Slider2 to allocate an audio source to the corresponding slider, in order to control its volume. The following audio sources are available:

➥MASTER, ➥Card_1, ➥Card_2, ... ➥Card_8

CUE OUT Signal

In combination with other AV components, the SC MASTER 6/16 is a most versatile unit. A necessary precondition is its flexibility in managing the control signals, which can be adjusted in the menus listed below.

Priority

This menu is used for defining whether the control signal set in Wings Platinum and saved with the show or that specified in SC MASTER 6/16 menu is to be valid. Setting "Card" uses the set control signal for playing back (default setting). Setting "Menu", on the other hand, gives priority to the parameters chosen under menu "Cue-Out". This setting is only evaluated in combination with DLC shows.

Cue-Out

Menu "Cue-Out" is used for selecting the signal to be output at CUE-OUT. While playing back the show, the signal used depends on the "Priority" setting; otherwise the menu setting is valid.

DLC

The DLC control signal is output at CUE-OUT (default setting). This signal is used for older control units.

Matetrac Out

The control program of a show in progress is output at the CUE-IN connector as MateTrac data signal, but only to the extent it is supported by the MateTrac set of commands.

Timecode-25FOut

The individual time positions within a show are output at the CUE-IN connector as SMPTE timecode at 25 f/s.

Timecode-30FOut

The individual time positions within a show are output at the CUE-IN connector as SMPTE timecode at 30 f/s.

Continue Sign (Continue Signal)

In this menu item you can specify whether a control signal is continued to be output at the end of a show (ContinSig=ON) or not (ContinSig=OFF).

With ContinSig=ON the control signal is continued to be output at the CUE OUT connector at the end of a show, thus continuing to transfer the current status to the connected devices.

If timecode is output, it is continuously repeated with the same time value at the end of the show.

RS232 OUT

These menus are used for selecting drivers for controlling various devices via the RS 232 connector.

Driver

Below you will find the corresponding driver for your application:

RS232	for serial control of special devices
Transponder	when transponders are to be used
ChipCard	for reading chip cards (e.g. for starting shows via chip cards coded correspondingly)
GPS TimeSyncPl	This device allows the time-of-the-day to be read out from the satellite navigation signal all over the world. In combination with the corresponding programming of the Scheduler file, this time information can be used for starting a show.

Timer

The SC MASTER 6/16 has a timer for periodic, time-controlled starting of shows from CF card. The following menus allow you to select the corresponding timer parameters.

AutoTimer

By activating the auto timer (Auto Timer= ON), SC MASTER 6/16 starts timer operation immediately after starting up. This may come in handy for fixed installations running over a period of several days. Set Auto Timer=OFF to switch off the timer.

ShowNumber (Show Number)

This menu serves for selecting a show (from 1 to 120) on the CF card, which is to be started via a timer.

Timer Time

Here you can specify the interval, i.e. the period to expire before the next show start. The value is entered in minutes and seconds, i.e. a value for Timer Time= 0140:15 means 2 hours, 20 minutes and 15 seconds.

Entries in this menu can be made via the IR remote control unit. The keys have the following functions:

IR remote control unit	Menu function
PLAY key ▶	ENTER
STOP key ■	ESC
Skip keys ⏩ and ⏪	Keys ↑ and ↓

Use the YES key to activate numerical entry and to change over between minutes and seconds. Numbers are entered via the numeric keypad. By pressing the NO key the numbers of the active field can be deleted.

Info

This menu contains information about the SC MASTER 6/16.

Serial Number stands for the serial number of the device. This serial number is required for ordering audio or DMX upgrades, as the enable code depends on this serial number.

Upgrade provides information about the current status of your unit in the submenus "Audio" and "DMX".

This menu is also used for installing upgrades to DMX or Multi-Channel Modules. The license number on your upgrade license is entered as follows:

Select „6Audio channels" or "6 DMX channels", depending on whether you want to upgrade to the Multi-Channel or the DMX Module. Press Enter once again and "Code:--------" appears. The cursor flashes at the first dash. Use keys ↑ and ↓ to enter the first digit of the license number and confirm with ENTER. Now the second dash will start blinking. Proceed as before until the complete license number has been entered. After confirming the last digit the display will show „16 Audio Channels or "DMX 64 Channels" as an indication that the upgrade has been completed successfully.

Should the display be the same as in the beginning, you may have made a mistake in entering the number. Check by pressing ENTER once again and correct the number if necessary. You have 30 tries before entry is blocked. After this it can only to be unblocked again by Stumpfl.

Show Control

General

The SC MASTER 6/16 offers an extensive range of Show Control functions, such as the capability to run up to 18 shows simultaneously from a CF card. The three (SC MASTER 6) or eight (SC MASTER 16) stereo audio channels can both be run in sync with or completely independently of each other.

Internally, this device features an extensive variable management system. The content of these variables can be modified directly in the individual shows in a variety of different ways. Based on theses contents certain decisions can be taken, which in turn can be used to start some other shows. On the other hand, it is also possible to perform logical operations which enable the SC MASTER 6/16 even to implement interactive control systems.

Additionally, there are also various input ports available which allow reaction to external events. The simplest way of control is via floating contacts or keys to which various conditions can be assigned. This way, the most essential requirements for installations can be met.

If necessary, SC MASTER 6/16 communicates also with a media control system, such as the SC TouchControl, via the two serial ports, i.e. integration into a superordinate network of media is no problem.

Sound track management on CF card

The MP3 tracks started in a show are regarded as separate tasks. Basically, they continue even after the show has finished, thus allowing controlled transition from one track to another. Here is an example: some background music is running in a loop, when a visitor entering the room triggers the start of a new show. This show makes the background music slowly fade out before the actual main show is started.

Sound track continues:

- Sound track is longer than the show.

  If the Show Start options are to be valid for the entire duration of the sound track, the end of the track must be provided with a position marker!

- Show termination via external contacts via Interrupt or Terminate. This applies also to ASCII commands (see page **Fehler! Textmarke nicht definiert.**).
- New show start via the Memory Option (see page **Fehler! Textmarke nicht definiert.**).
- Show Loop. Termination only after the sound track in the show has been restarted.
- Remote Jump (only available with Wings 4.11)

Sound track is interrupted:

- New start of a sound track at this output through another show.

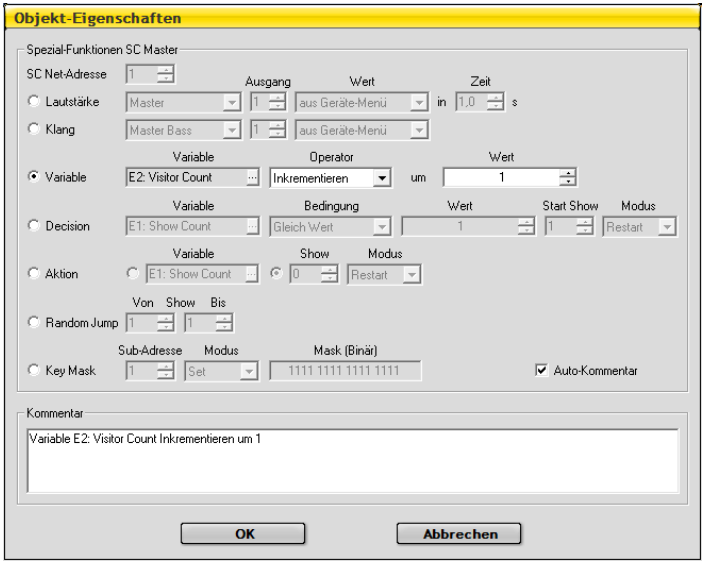
- New start of the show via the Restart Option.
- Jump to another show either when a variable condition is fulfilled or via an Action command with the Option "Jump".
- The show is terminated either when a particular variable condition is fulfilled or via an Action command with the Option "End".
- Random Jump.

Variables

Variables are internal memories that can take various values depending on their programming in Wings Platinum. These values form the basis for further decisions and logical operations. Possible values range from 0 to 0xFFFF (hexadecimal) and 0 to 65535 (decimal).

It is possible to assign certain values to the variables, to transfer the content of one variable to another, or to perform mathematical operations, such as incrementing, decrementing, multiplying and dividing. It is clearly defined that there most neither be an overflow nor an underflow, i.e. if you deduct the value 7 from a variable with the content 5 you get 0.

All variable operations are programmed in Wings Platinum via the Special functions and the dialog "Objekt Properties". This



dialog box also allows the decisions and actions to be defined which are to be performed in reaction to a certain variable content.

A total of 100 variables are available, with 30 being EEProm and 70 being RAM variables.

EEProm Variables:

- The value is not lost even if the unit is powered down. This type of variables can be used for show counters, automatic retrieval of service intervals, visitor counters, etc.
- The initial value of these variables, i.e. before they are actually used, is 0xFFFF (hex) = 65535 (decimal). This means that these variables need to be initialized before they are used for the first time. This is done most easily via an auxiliary program on the CF card. If necessary, this program can also be used for resetting the variables later on.

RAM Variables:

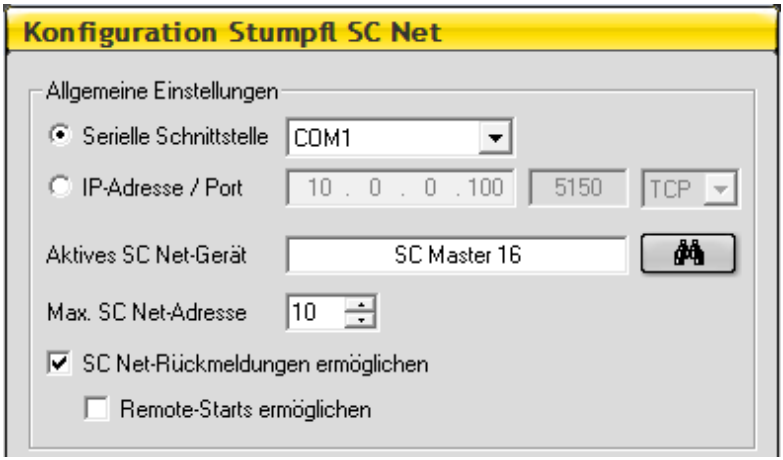
- RAM variables are runtime variables. After powering up the SC MASTER 6/16 they are set to 0.
- One exception is RAM variable 70, which is set to 1 for SC Net operation, once the SC Net connection has been established. By checking this variable, function of the SC Net signal can be tested. Combined with an Autostart Show, which is only started when this variable takes the value 1, it can be ensured that the connected SC Net modules are able to evaluate the commands.

- This type of variable can be used for logical operations with frequently changing variable contents.

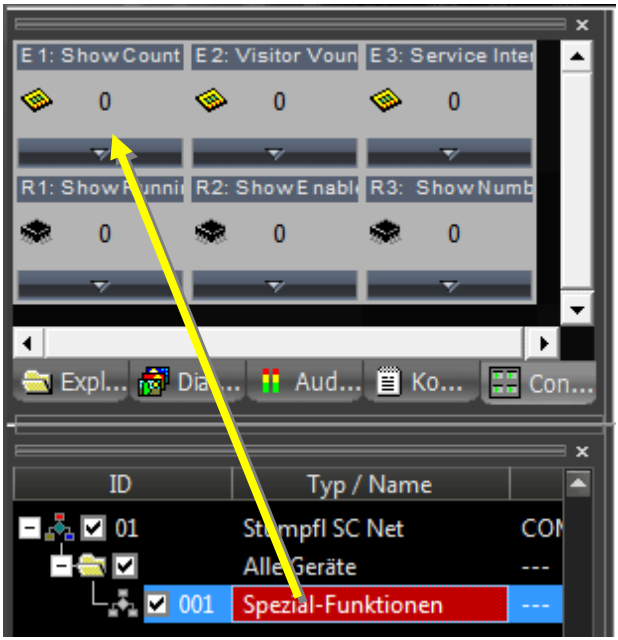
Monitoring of variables during programming

Wings Platinum allows monitoring of variables, thus enabling you to keep an overview of the variables and their individual values. This requires the following settings:

1. In the Stumpfl SC Net port configuration dialog you need to place a checkmark next to "Enable SC Net feedback".



2. Drag Special functions from the Device Pool and drop it in the Control Panel.



3. Click arrow button and select the corresponding variable in the dialog.

Any changes in the value of a variable in the SC MASTER 6/16 that come up during programming will be displayed on the Control Panel.

Remote Input and Key Mask

The SC Master 6/16 can be remotely controlled via four different input ports:

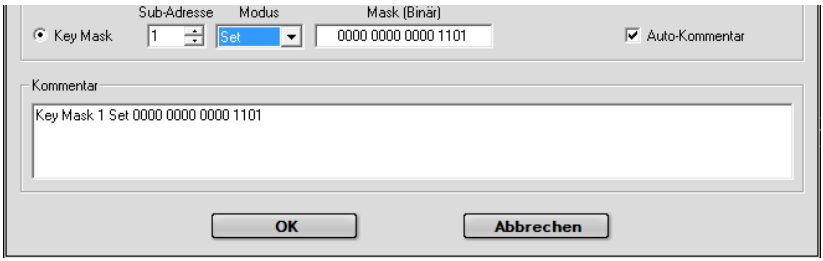
1. IR remote control unit or IR signal, respectively. More about this can be found in chapter „**Fehler! Verweisquelle konnte nicht gefunden werden.**“ on page **Fehler! Textmarke nicht definiert.**.
2. Starting of three shows via the 14-pin Remote connector by closing the contacts between pin 2+3, pin 1+3 and pin 1+2+3.
3. Data I/O connector allows connection of the following input units:
    - Key matrix 4x4 for 16 keys. With matrix cabling only one key press is recognized at a time. In the Remote table (see page **Fehler! Textmarke nicht definiert.**) these inputs correspond to the first 16 Remote entries.
    - OpenCollector16-Remote for 8 contacts in parallel mode (simultaneous key presses are recognized) In the Remote table these inputs correspond to the first 8 Remote entries. (Address space of open-collector outputs within the SC MASTER 6/16: 1/74 – 1/89)
    - Remote 16in for 16 contacts in parallel mode (simultaneous key presses are recognized). In the Remote table these inputs correspond to the first 16 Remote entries.

- OpenCollector40-Remote for 8 contacts in parallel mode (simultaneous key presses are recognized). In the Remote table these inputs correspond to the first 8 Remote entries. The open-collector outputs are addressed by registering an SC Net "OpenCollector 16out" module at SC Net address 2 with 40 channels.

4. SC Net Remote 16in via SC Net connection:
   - SC Net Address 2 corresponds to Remote 1-16 in the Remote table.
   - In combination with Data-I/O an SC Net Remote 16in Module must be configured as of address 3. This corresponds to the Remote entries 17-32.

Key Mask

Function Key Mask allows individual inputs to be activated or deactivated.



Please bear in mind that the mask must be interpreted from the right to the left and is binary coded. I.e. in the example

above inputs 1,3 and 4 are activated. All other inputs are locked.

- Key Mask Set → activates or deactivates all 16 inputs simultaneously (1= activated, 0= deactivated).
- Key Mask Or → Value 1 activates additional inputs, value 0 leaves the inputs unchanged.
- Key Mask And → Value 0 activates additional inputs, value 1 leaves the inputs unchanged.

Text in display or via RS232

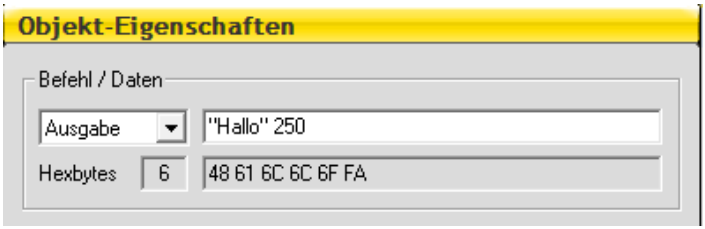
The SC MASTER 6/16 display can show any text. This may be useful if you want to display control information during the show. However, it is also possible to display variable contents.

The information to be displayed can also be transmitted via one of the two serial ports of the SC MASTER 6/16.

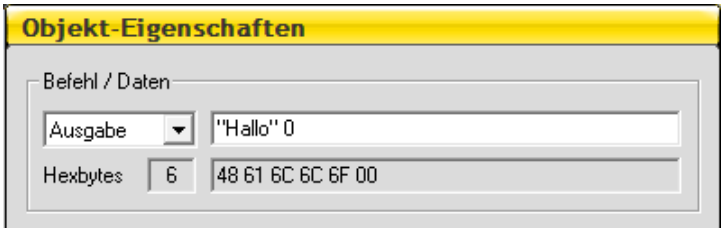
These are the individual steps for displaying text

1. In the Wings Platinum Device Pool, add a serial port under "Add device....." for the SC MASTER 6/16.

2. In the Properties Dialog set the address of this "serial port" to 1/2 = SC MASTER 6/16 display.
3. Drag and drop the device into the marker track and enter the appropriate text.
4. The following format requirements apply:
   - "ASCII-TEXT between quotation marks" followed by a display time in 1/10 seconds.



- 250 is the period in 1/10 seconds for which the text is displayed. 250 = 2.5 seconds.
- 255 means that the text is displayed permanently.



- 0: The text is transmitted via the serial port RS232OUT (1/90).
- 1: The text is transmitted via the serial port RS232IN (1/91).
- The content of a variable can be displayed by entering a %-sign and the number of the variable. (Example: "VariableV31=%31"0xFF). Please consider that the variables are numbered from 1 to 100. Numbers 1 to 30 correspond to the 30 EEProm variables, numbers 31 to 100 to the 70 RAM variables.
- If the %-sign is to be displayed as part of the text, it needs to be entered twice, e.g. "%%".

Trouble shooting

Finding faults

The SC MASTER 6/16 may only be one of a variety of different components within your installation. Any possible errors may, therefore, also be caused by other devices - which doesn't make troubleshooting any easier. In such a case it can be an advantage to understand what is happening. Don't panic and try a systematic approach to the problem.

- Try to find out about the interaction between the devices for the particular application.
- Check whether the necessary cables are connected.
- Switch on all necessary devices and select the corresponding mode.
- Use other devices, i.e. via audio level displays or exchange devices to check whether the signals are correct or whether they are actually applied.
- Look up your problem in the list of problems on the next pages to find out whether there is a solution to your problem.

List of problems

In the following list of problems you can find some solutions to problems, sorted according to topics:

After inserting the CF card the display shows "Reinsert Card".

➔The CF card could not detected after insertion. You can repeat this step or switch the SC MASTER 6/16 off and on again with the CF card remaining in the slot. When starting up it is easier for the SC MASTER 6/16 to detect the CF card.

When copying presentation data onto CF card the following message appears in Wings Platinum: "Not enough memory" although the CF card is new or empty.

➔ Presumably the CF card still requires formatting to the **FAT** file system and NOT to the FAT32- or NTFS file system. See page **Fehler! Textmarke nicht definiert.**.

After inserting the CF card in the control unit, message "No Show.ini file - Formatted to FAT?" appears on the display.

In principle, this may have two reasons:

➔ The CF card is empty or Show.ini is not available. **Solution:** Copy presentation data onto CF card.

➔ CF card is formatted to FAT32 or NTFS file system. **Solution:** Format the CF card to FAT16 file system. In the Windows Explorer, right-click the CF card, followed by **Format...** Select file system **FAT** and format the CF card. Then copy the presentation data once again onto CF card.

IR remote control unit does not work.

➔ Check the batteries and their position. When the remote control is activated at a normal distance (approx. 0.5 to 1.5 m) the control unit should react.

➔ Make sure that IR reception for the control unit in menu "Options" is activated. See page **Fehler! Textmarke nicht definiert.**.

➔ Please note that the range of the IR remote control may differ for distances beyond 15 m! See **Fehler! Verweisquelle konnte nicht gefunden werden.** on page **Fehler! Textmarke nicht definiert.**.

No level display during audio playback.

➔ The level display is only active while a control program is being executed and disappears upon its termination. Set a position marker at the end of the last audio sample in Wings Platinum.

Sound track is not in sync with the devices.

➔You may have edited the sound track in Wings Platinum and transferred only the updated show (i.e. only the control pro-

gram) onto CF card. Recreate all presentation data for the SC MASTER 6/16 and transfer them to CF card.

Sound track is not in sync with the device or the show time is in "slow motion".

➔ You may have chosen "External clock“ (Menu Options -> External Clock) without an SC VIDEO PLAYER being connected or the sync-clock cable may be defective.

If all these attempts have been without success ...

If neither the list of problems nor the Wings Platinum Online Help (which is always more up-to-date!) helps in any way to solve the problem you should turn to your dealer or directly to us giving a detailed description of the problem. For the address refer to page 6.

Update of operating software

Updating

As the SC MASTER 6/16 includes a processor with operating software you can very simply keep your control unit up-to-date by loading new software.

➔Download an Update File from the Internet. It is available at **www.AVstumpfl.com** under "Download" / "Firmware Updates". If you do not have access to the Internet, turn to our Support for help.

➔ Connect the RSRS232-IN port of the SC MASTER 6/16 to one of the serial computer ports (Com 1...4.

➔Start your computer and switch on the SC MASTER 6/16.

➔ Double-click the downloaded file ***SDUpdateE.exe*** to start it. Information about updateable devices will appear. Now click "**Setup**".

➔ Click on "**Update**". The progress can be monitored in the dialog box. On the SC MASTER 6/16 display message "Program Flash" appears and the SHOW-, SC NET- and CUE LED will alternately flash just like running light.

➔ After about 15 minutes the update should be complete – a corresponding message will appear on the display. SC MASTER 6/16 will boot automatically and be ready for use again after that.

Important note:

- While updating, SC MASTER 6/16 must by no means be switched off nor the connection to the computer be broken!
- If a screen saver is activated during the update, the update dialog may appear in white. In this case you should wait for update to be completed. This can be recognized by the information on the SC MASTER 6/16 display.

Technical Appendix

ASCII Protocol

ASCII protocol allows SC MASTER 6/16 to be conveniently integrated into comprehensive multimedia installations controlled by media control systems.

The serial port (RS232-IN) does not only allow shows to be started but also the entire SC Net system including all its connected modules to be controlled via SC Net commands. The special thing is that these ASCII commands can be evaluated in addition to the cues of a running show.

No initialization is necessary before ASCII commands can be sent to the control unit. The communications protocol is 9600 Baud, 8 data bits, no parity bit and one stop bit.

ASCII command identification "a" (= 61 hex, 97 dec) must be sent as first character. Command end identification "#" (= 23 hex, 35 dec) must be sent as last character. No spaces are allowed. The maximum time interval between two characters must not exceed 20 ms, otherwise the command is ignored.

Note: If you want to control the SC MASTER 6/16 via Wings Platinum or the SC TouchControl you can use a driver, which does not require any protocol knowledge.

List of functions

ASCII code	Function
aSNx#	Normal show start. A new is only started when no other show is running. Currently running shows are not interrupted. x = show number from 1 to 200.
aSTx#	Terminate show start. Only shows different from x are interrupted. x = show number from 1 to 200.
aSIx#	Interrupt show start. Currently running shows are interrupted. x = show number from 1 to 200.
aSAx#	Add show start. The new show is started In addition to the currently running shows. x = show number from 1 to 200.
aSBx#	Begin show start. The new show is restarted. Currently running shows are not interrupted. x = show number from 1 to 200.
aSEx#	End Show. A currently running show is interrupted. x = show number from 1 to 200.
aSS#	All shows are stopped immediately.
aV+#	Master Volume up.
aV- #	Master Volume down.
aV:x#	Adjusts the Master Volume to the value specified by x. x = 0 to 31. Commands including values >31 are ignored.
aV<x:t#	Fade Master Volume to value specified by x within the period of time t. x = 0 to 31. Commands including values >31 are ignored. t = 0 to 255. Value in 1/10 seconds.
aB+#	Master Bass up
aB- #	Master Bass down
aB:x#	Adjusts the Master Bass to the value specified by x. x = 0 to 14. 0 = -7dB, 7 = 0dB, 14 = +7dB
aT+#	Master Treble up
aT- #	Master Treble down

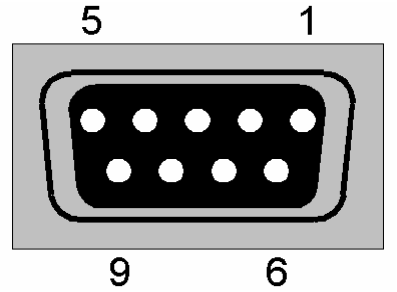
aT:x#	Adjusts Master Treble to the value specified by x. x = 0 to 14. 0 = -7dB, 7 = 0dB, 14 = +7dB
aC+#	Card Volume up (all channels)
aC- #	Card Volume down (all channels)
aCy+#	Card Volume up for channel y, y = channel number from 1 to 8.
aCy- #	Card Volume down for channel y, y = channel number from 1 to 8.
aC:x#	Adjusts Card Volume to the value specified by x (all channels). x = 0 to 31. Commands including values >31 are ignored.
aCy:x#	Adjusts Card Volume to the value specified by x. y = channel number from 1 to 8. x = 0 to 31. Commands including values >31 are ignored.
aC<x:t#	Fade Master Volume to value specified by x within the period of time t (all channels). x = 0 to 31. Commands including values >31 are ignored. t = 0 to 255. Value in seconds.
aCy<x:t#	Fade Card Volume of channel y to value specified by x within the period of time t. y = channel number from 1 to 8. x = 0 to 31. Commands including values >31 are ignored. t = 0 to 255. Value in seconds.
aCyL<x:t#	Fade Card Volume left output of channel y to value specified by x within the period of time t. y = channel number from 1 to 8. x = 0 to 31. Commands including values >31 are ignored. t = 0 to 255. Value in seconds.
aCyR<x:t#	Fade Card Volume right output of channel y to value specified by x within the period of time t. y = channel number from 1 to 8. x = 0 to 31. Commands including values >31 are ignored. t = 0 to 255. Value in seconds.
aX#	Starts at an X-time

aP#	PAUSE function. Corresponds to the PAUSE key on the remote control unit
aPx#	PAUSE show x. Only the specified show is put in Pause Mode. x = show number from 1 to 200.
aPEx#	PAUSE END Show x Pause Mode is only canceled for the specified show. x = show number from 1 to 200.
aP*#	PAUSE all shows. All running shows are put in Pause Mode.
aPE*#	PAUSE END for all shows. Pause Mode is canceled for all shows.
aY#	YES function. Corresponds to the YES key on the remote control unit
axPy#	Start player x at track number y. y = channel number from 1 to 8. y = 1 to 255 corresponds to the order of the sound track in the Show.ini
axPS#	Stop player x. y = channel number from 1 to 8.
aNm.c:x#	Puts output channel c in SC Net module m to the value specified by x. m = 1 to 125. c = 1 to 512. x = 0 to 255.
aNm.c+x#	Increments output channel c in SC Net module m to the value specified by x. If the maximum value of 255 is exceeded by the operation, the value is limited to 255. m = 1 to 125. c = 1 to 512. x = 0 to 255.
aNm.c-x#	Decrements output channel c in SC Net module m to the value specified by x. If the operation causes the minimum value to fall below 0, the value is limited to 0. m = 1 to 125. c = 1 to 512. x = 0 to 255.

aNm.c<x.t#	Fades output channel c in SC Net module m to value x at the time specified in t. m = 1 to 125. c = 1 to 512. x = 0 to 255. t = 0 to 999. Time value in steps of 0.1 seconds. 999 corresponds to 99.9 seconds.

Connector configuration

RS232-IN connector



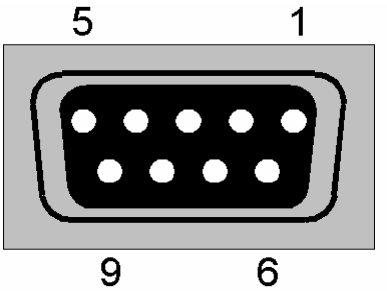
1. N.C.
2. TxD
3. RxD
4. N.C.
5. GND RS232
6. N.C.
7. N.C.
8. N.C.
9. +5V to pin 5

N.C. = not connected

Shield = Internal GND

SC Net subaddress: /91

RS232-OUT connector



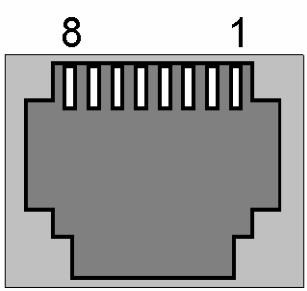
1. N.C.
2. TxD
3. RxD
4. N.C.
5. GND RS232
6. N.C.
7. CTS
8. RTS
9. +5V to pin 5

N.C. = not connected

Shield = GND internal

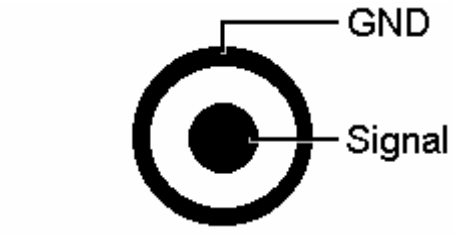
SC Net subaddress: /90

SC NET connector



1. CAN - GND
2. CAN - VDD (+5V, max 50mA)
3. N.C
4. CAN-H
5. CAN-L
6. N.C
7. N.C.
8. N.C.

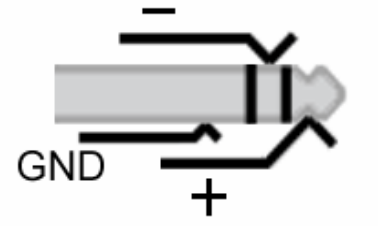
CUE-OUT connector



GND = internal

CUE OUT output level: 5V (14dBV, 16,2dBu)

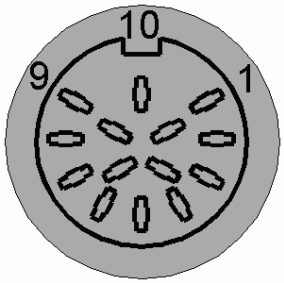
LINE-OUT connectors



Devices with unbalanced inputs can be connected via a mono jack. It would be optimal to use a stereo connector with the ring not being connected.

With a 0 dB signal (sine wave) generated by Wings Platinum and converted into an MP3 file, SC MASTER 6/16 generates a 4.1 V peak-peak output level (equal to 2.9 V RMS). All internal settings of the SC MASTER 6/16 are adjusted to Card Volume 29 and Master Volume 31.

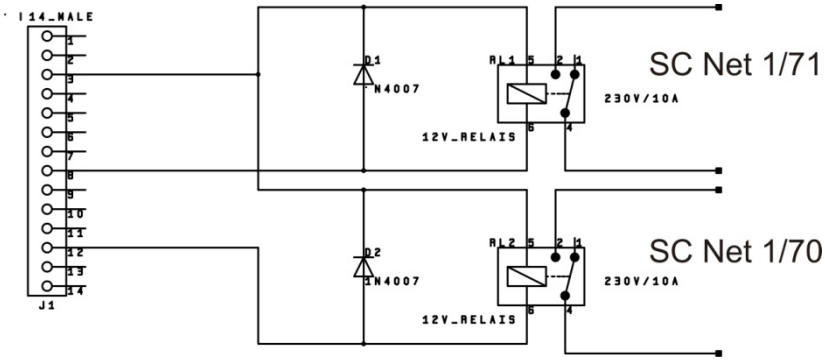
REMOTE connector



1. Start show 2
2. Start show 1
3. + 15 VDC up to + 25 VDC (unstable) output
4. Analog input 1 (max. 0-5VDC)
5. +5V DC regulated output (max. 20 mA)
6. GND internal
7. Toggle input
8. Open-collector output (IR-Out 2, DMX-Out)
9. Analog input 2 (max. 0-5VDC)
10. + 15 VDC up to + 25 VDC (unstable) output (connected to pin3)
11. External IR input
12. Open-collector output (IR-Out 1, DMX-Out)
13. GND internal
14. Analog input 3 (max. 0-5VDC)

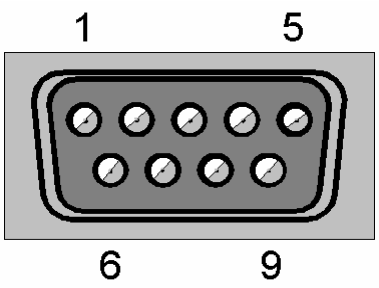
REMOTE Connector Open-Collector Outputs

The REMOTE connector switch outputs have the fixed SC Net subaddresses /70 and /71. The maximum load to be applied is 100 mA and they always require a free wheel diode. In order to switch higher power and voltages, external relays can be operated in accordance with the following schematic diagram:



Important: This adaptation requires qualified experts! We cannot assume any liability whatsoever for any damage caused by improper connection and handling.

DATA IN / OUT connector

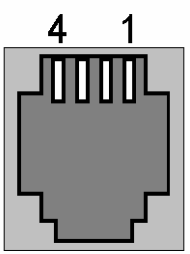


1. Data In 1
2. Data In 2
3. Data In 3
4. Data In 4
5. Data In/Out 1
6. Data In/Out 2
7. Data In/Out 3
8. Data In/Out 4
9. +5VDC (max 20mA)

N.C. = not connected

Shield = GND internal

POWER connector



1. + 2. 15VAC (Winding 1 of Power Supply Unit AC-3)

3. + 4. 15VAC (Winding 2 of Power Supply Unit AC-3)

Maximum input voltage 15V AC or 24 V DC!

Power Supply unit AC-3 (2x15V/500mA) must be used! Other Stumpfl power supplies do not have enough power handling capacity!

Technical Data

SC MASTER 6/16

Dimensions (H/W/D):	45 x 212 x 170mm
Weight:	1080g
Power supply:	15 V AC/50,60Hz or 12-24 V DC, respectively
Stand-by current:	500 mA

Glossary

CD-R
A CD for writing on with a CD writer, which can also be read by normal audio CD players. It can only be written on once and cannot be deleted.

CF card
CompactFlash Card, a memory card the size of a postage stamp which is also used for digital cameras. It has a fixed memory, works without movable components and is wear free.

Cues
Control commands of a slide show which can be recorded as control signals on a sound carrier.

DAT Recorder
Digital **A**udio **T**ape - cassette recorder for digital storage of audio signals in CD quality.

DLC
Dynamic **L**ink **C**ode - modern control signal standard, introduced by AV Stumpfl in 1994.

DMX512
Protocol for serial control of up to 512 devices. Mainly used in the field of stage technology.

HDR
Hard disk recording - recording of audio signals on hard disk and processing in the computer.

Cascading
Connecting devices in series. With the SC MASTER 6/16 this is done via the SC Net control signal line or by means of serial connections via RS232 in combination with the SC VIDEO PLAYER.

MateTrac
Widely used control signal standard of Arion, USA. AV Stumpfl has been using this control signal since 1983. No relevance for the SC MASTER 6/16.

Mixdown
..Mix of various sound channels or parallel samples into a stereo sum or stereo sample.

MP3
Method for scaleable compression of audio data; developed by the Fraunhofer Institute.

Port
In control technology, this term stands for a software-configured connector.

Sample
The term used in sound engineering for "sound element".

Timecode
A time signal developed by film industry for synchronization of different systems, e.g. for picture and sound.

X Times
Control commands provided with an X time can be started manually at any time. They are used for impulsive synchroni-

zation with music as well as for controlling speaker support sequences.

Index

A

Abmessungen 126
Adressen – SC Net Sub-Adressen 63
Adressen konfigurieren 59
Anschlussbuchsen
  Beschaltung 118
  Geräteansicht 12
Anschrift von AV Stumpfl 7
ASCII-Protokoll 113
Autostart 35
AuxAdrs (Auxiliary-Adresse) 77
AUX-Out 81

B

Bass 86
Batterien einlegen 17
Baudrate für RS 232 IN 84
Beschaltung der Buchsen 118
Betriebssoftware-Update 110
Buchsen 13
Buchsen-Beschaltung 118

C

CF-Card-Daten erstellen 26
Computer anschließen 20

Cue-Out 88
CUE-OUT-Buchse 122

D

DALI-Out 81
DATA IN / OUT-Buchse 125
DataIO (Data In/Out) 82
Daten für SC MASTER erstellen 26
Datenübertragung auf die CF-Card 43
DCF-77 51
Display 79
DLC-Steuersignal 88
DMX-Out 81

E

EC Mixer 87
Entsorgung des Gerätes 6
ExtAdrs (Externe SCNet-Adressen) 78
ExtClk (External Clock) 83

F

Features 2
Fehlerbehebung 106
Fernbedienung 14
Firmware-Update 110
FlashCard-Dialog 28

G

Geräteansichten 9
  Frontseite 10
  IR-Fernbedienung 14
  Rückseite 12
Gewicht 126

I

Inbetriebnahme 16
IR-Empfang deaktivieren 80
IR-Fernbedienung 14
IRRecve (IR-Receive) 80

K

Kabelverbindungen 16
Kabelverbindungen im SC Net 58
Klangeinstellung 86
Kommunikation im SC Net sicherstellen 64

L

Lautstärke per Masterregler 85
LINE-OUT-Buchsen 122

M

MateTrac 89
Mehrkanalton 84
Memory 39
Menü
  Aufbau 66
  Bedienung 68
Menüpunkte 75
MP3-Cardplayer 55

N

NetAdrs (SCNet-Adresse) 78
Normal 38

O

OC Analog Modul 82
Open Collector Ausgänge 124

Open Collector-Schaltausgänge 81
Open-Collector-Modul 77
Options 77

P

POWER-Buchse 126
Präsentationsdaten 26
Priorty (Priority) 88
Programmieren 19

R

Reichweite der IR-Fernbedienung 50
Remote Extension 82
REMOTE-Buchse 123
Remote-Eigenschaften von Shows 36
RMT-Out (Remote-Out) 81
RS232-IN-Buchse 118
RS232-OUT-Buchse 120
RS232-Protokoll 113
RSOut 90
Rückseite 12

S

SaveVol (Save Volume) 86
SC Net Sub-Adressen 63
SC Net, Kommunikation sicherstellen 64
SC NET-Buchse 121
SC Net-System 58
SC VIDEO PLAYER synchronisieren 83
Schieberegler 87
SCNBaud (SC Net Baudrate) 78
SCNet (SCNet-Adressen) 78
serielle Steuerung 113
Serviceanschrift 7

Setting 75
SHOW.INI verändern 41
Show-Eigenschaften festlegen 35
Shows starten -erweiterte Anwahl 49
Show-Start mit Scheduler 51
Signal 88
Slider 87
SMPTE-Timecode 89
Startverhalten 42
Stromversorgung 16

T

TimeDsp (Time Display) 80
Timer 50
Transponder 52
Treble 86

Ü

Über die IR-Fernbedienung 49

U

Update der Firmware 110
Upgrade der Geräteausstattung 92

V

Volume 86

W

Wiedergabe von Shows 46
Wiedergabe von synchronem Mehrkanalton 56

Z

Zeit gesteuerter Show-Start 91